

**BEFORE SUBMITTING YOUR BID**

1. Use pen and ink to complete the Bid.
2. Have you signed and completed the Contract Agreement, Offer & Award Forms?
3. As a minimum, the Bidder will submit a Bid Package consisting of the Notice to Contractors, the completed Acknowledgement of Bid Amendments & Submission of Bid Bond Validation Number form, the completed Schedule of Items, 2 copies of the completed Agreement, Offer, & Award form, a Bid Bond or Bid Guarantee, **a signed Certification for Nonsegregated Facilities, a signed Bidder's Certification and any other Certifications or Bid Requirements listed in the Bid Book.**
4. Have you included prices for all Bid Items? ("Zero is not considered a bid price.")
5. Have you included a bid guarantee? Acceptable forms are :
  - A. Bid Bond on the Department's prescribed form for 5% of the Bid Amount.  
(Or forms that do not contain any significant variations from the Department's forms as solely determined by the Department.)
  - B. Official Bank Check, Cashier's Check, Certified Check, U.S. Postal Money Order or Negotiable Certificate of Deposit in the amount stated in the Notice to Contractors.
6. If the written Bid is to be sent, Federal Express overnight delivery is suggested as the package is delivered directly to the DOT Headquarters Building in Augusta. Other means, such as U.S. Postal Services' Express Mail has proven not to be reliable.

**AND FOR FEDERAL AID PROJECTS**

7. Have you included your DBE Utilization commitment in the proper amounts and signed the DBE Certification?

If you need further information regarding Bid preparation, call the DOT Contracts Section at (207)624-3410.

For complete specifications regarding bidding requirements, refer to Section 102 of the Maine Department of Transportation, Standard Specifications, Revision December 2002.

**STATE OF MAINE DEPARTMENT OF TRANSPORTATION**  
Bid Guaranty-Bid Bond Form

**KNOW ALL MEN BY THESE PRESENTS THAT**\_\_\_\_\_

\_\_\_\_\_, of the City/Town of \_\_\_\_\_ and State of \_\_\_\_\_

as Principal, and \_\_\_\_\_ as Surety, a

Corporation duly organized under the laws of the State of \_\_\_\_\_ and having a usual place of

Business in \_\_\_\_\_ and hereby held and firmly bound unto the Treasurer of

the State of Maine in the sum of \_\_\_\_\_, for payment which Principal and Surety bind

themselves, their heirs, executors, administrators, successors and assigns, jointly and severally.

The condition of this obligation is that the Principal has submitted to the Maine Department of

Transportation, hereafter Department, a certain bid, attached hereto and incorporated as a

part herein, to enter into a written contract for the construction of \_\_\_\_\_

\_\_\_\_\_ and if the Department shall accept said bid

and the Principal shall execute and deliver a contract in the form attached hereto (properly

completed in accordance with said bid) and shall furnish bonds for this faithful performance of

said contract, and for the payment of all persons performing labor or furnishing material in

connection therewith, and shall in all other respects perform the agreement created by the

acceptance of said bid, then this obligation shall be null and void; otherwise it shall remain in full

force, and effect.

Signed and sealed this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_

WITNESS:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

WITNESS

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

PRINCIPAL:

By \_\_\_\_\_

By: \_\_\_\_\_

By: \_\_\_\_\_

SURETY:

By \_\_\_\_\_

By: \_\_\_\_\_

Name of Local Agency: \_\_\_\_\_

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- 4. Have you included prices for all Bid Items? (“Zero is not considered a bid price.”)**
- 5. Have you included a bid guarantee? Acceptable forms are:**
  - A. Bid Bond on the Department’s prescribed form for 5% of the Bid Amount. (Or forms that do not contain any significant variations from the Department’s forms as solely determined by the Department.)**
  - B. Official Bank Check, Cashier’s Check, Certified Check, U.S. Postal Money Order or Negotiable Certificate of Deposit in the amount stated in the Notice to Contractors.**
- 6. If the written Bid is to be sent, Federal Express overnight delivery is suggested as the package is delivered directly to the DOT Headquarters Building in Augusta. Other means, such as U.S. Postal Services’ Express Mail has proven not to be reliable.**

**AND FOR FEDERAL AID PROJECTS**

- 7. Have you included your DBE Utilization commitment in the proper amounts and signed the DBE Certification?**

**If you need further information regarding Bid preparation, call the DOT Contracts Section at (207)624-3410.**

**For complete specifications regarding bidding requirements, refer to Section 102 of the Maine Department of Transportation, Standard Specifications, Revision December 2002.**

# NOTICE

**The Maine Department of Transportation is attempting to improve the way Bid Amendments/Addendums are handled, and allow for an electronic downloading of bid packages from our website, while continuing to maintain a planholders list.**

**Prospective bidders, subcontractors or suppliers who wish to download a copy of the bid package and receive a courtesy notification of project specific bid amendments, must provide an email address to Diane Barnes at the MDOT Contracts mailbox at: [MDOT.contracts@maine.gov](mailto:MDOT.contracts@maine.gov). Each bid package will require a separate request.**

**Additionally, interested parties will be responsible for reviewing and retrieving the Bid Amendments from our web site, and acknowledging receipt and incorporating those Bid Amendments in their bids using the Acknowledgement of Bid Amendment Form.**

The downloading of bid packages from the MDOT website is not the same as providing an electronic bid to the Department. Electronic bids must be submitted via <http://www.BIDX.com>. For information on electronic bidding contract Rebecca Pooler at [rebecca.pooler@maine.gov](mailto:rebecca.pooler@maine.gov).



# NOTICE

For security and other reasons, all Bid Packages which are mailed, shall be provided in double (one envelope inside the other) envelopes. The *Inner Envelope* shall have the following information provided on it:

Bid Enclosed - Do Not Open

PIN:

Town:

Date of Bid Opening:

Name of Contractor with mailing address and telephone number:

In Addition to the usual address information, the *Outer Envelope* should have written or typed on it:

Double Envelope: Bid Enclosed

PIN:

Town:

Date of Bid Opening:

Name of Contractor:

*This should not be much of a change for those of you who use Federal Express or similar services.*

Hand-carried Bids may be in one envelope as before, and should be marked with the following information:

Bid Enclosed: Do Not Open

PIN:

Town:

Name of Contractor:

**STATE OF MAINE DEPARTMENT OF TRANSPORTATION**  
Bid Guaranty-Bid Bond Form

**KNOW ALL MEN BY THESE PRESENTS THAT**\_\_\_\_\_

\_\_\_\_\_, of the City/Town of \_\_\_\_\_ and State of \_\_\_\_\_

as Principal, and \_\_\_\_\_ as Surety, a

Corporation duly organized under the laws of the State of \_\_\_\_\_ and having a usual place of

Business in \_\_\_\_\_ and hereby held and firmly bound unto the Treasurer of

the State of Maine in the sum of \_\_\_\_\_ for payment which Principal and Surety bind

themselves, their heirs, executors, administrators, successors and assigns, jointly and severally.

The condition of this obligation is that the Principal has submitted to the Maine Department of

Transportation, hereafter Department, a certain bid, attached hereto and incorporated as a

part herein, to enter into a written contract for the construction of \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ and if the Department shall accept said bid

and the Principal shall execute and deliver a contract in the form attached hereto (properly

completed in accordance with said bid) and shall furnish bonds for this faithful performance of

said contract, and for the payment of all persons performing labor or furnishing material in

connection therewith, and shall in all other respects perform the agreement created by the

acceptance of said bid, then this obligation shall be null and void; otherwise it shall remain in full

force, and effect.

Signed and sealed this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_

WITNESS:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

WITNESS

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

PRINCIPAL:

By \_\_\_\_\_

By: \_\_\_\_\_

By: \_\_\_\_\_

SURETY:

By \_\_\_\_\_

By: \_\_\_\_\_

Name of Local Agency: \_\_\_\_\_

# NOTICE

Bidders:

Please use the attached “Request for Information” form when faxing questions and comments concerning specific Contracts that have been Advertised for Bid. Include additional numbered pages as required.

# REQUEST FOR INFORMATION

Response By:\_\_\_\_\_ Date:\_\_\_\_\_

# INSTRUCTIONS FOR PREPARING THE CONTRACTOR'S DISADVANTAGED BUSINESS ENTERPRISE UTILIZATION PLAN

## The Contractor Shall:

1. Submit a completed Contractor's Disadvantaged Business Enterprise Utilization Plan to the Contract's Engineer by 4:30 P.M. on the Bid day.
2. Extend equal opportunity to MDOT certified DBE firms (as listed in MDOT's DBE Directory of Certified Businesses) in the selection and utilization of Subcontractors and Suppliers.

## SPECIFIC INSTRUCTIONS FOR COMPLETING THE FORM:

Insert Contractor name, the name of the person(s) preparing the form, and that person(s) telephone and fax number.

Provide total Bid price, Federal Project Identification Number, and location of the Project work.

In the columns, name each DBE firm to be used, provide the Unit or Item cost of the Work/Product to be provided by the DBE firm, give a brief description of the Work, and the dollar value of the Work.

If no DBE firm is to be utilized, the Contractor must document the reason(s) why no DBE firms are being used. Specific supporting evidence of good faith efforts taken by Contractors to solicit DBE Bidders must be attached. This evidence, as a minimum, includes phone logs, e-mail and/or mail DBE solicitation records, and the documented results of these solicitations.

# NOTICE

## Disadvantaged Business Enterprise Proposed Utilization

The Apparent Low Bidder must submit the Disadvantaged Business Enterprise Proposed Utilization form by close of Business (4:30 P.M.) on Bid day.

The Contractor's Disadvantaged Business Enterprise Proposed Utilization Plan form contains additional information that is required by USDOT.

The Contractor's Disadvantaged Business Enterprise Proposed Utilization Plan form must be used.

A copy of the new Contractor's Disadvantaged Business Enterprise Proposed Utilization Plan and instructions for completing it are attached.

Note: Questions about DBE firms, or to obtain a printed copy of the DBE Directory, contact Equal Opportunity at (207) 624-3066.

MDOT's DBE Directory of Certified firms can also be obtained at [http://www.state.me.us/mdot/humnres/o\\_equalo/cdwbed\\_h.htm](http://www.state.me.us/mdot/humnres/o_equalo/cdwbed_h.htm)

# CONTRACTOR'S DISADVANTAGED BUSINESS ENTERPRISE PROPOSED UTILIZATION PLAN

Low Bidder shall furnish completed form to Contracts Section by 4:30 P.M. on Bid Opening day.

TO: MDOT Contracts Section  
16 State House Station,  
Augusta, Me 04333-0016  
or  
Fax: 207-624-3431

Contractor: \_\_\_\_\_

Prepared by: \_\_\_\_\_

Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_

BID PRICE: \$ \_\_\_\_\_ FEDERAL PROJECT # \_\_\_\_\_ LOCATION: \_\_\_\_\_

TOTAL DBE PARTICIPATION AS A PERCENT OF TOTAL BID PRICE = \_\_\_\_\_ %

DBE Firm*	Unit/Item Cost	Unit #	Description of work & Item Number	Actual \$ Value
Total >				

If no DBE firm(s) are used, bidder must document efforts made to secure DBE participation and attach supporting evidence of this effort:

\_\_\_\_\_  
\_\_\_\_\_.

Examples: Bidder relies wholly upon low quote subcontractor section, DBE firm(s) were not low quote.  
No DBE firms bid.

\*Only DBE firms certified by MDOT prior to bidding can be utilized by Contractor for DBE credit.  
Directory of certified DBEs is available on MDOT's website: [www.state.me.us/mdot](http://www.state.me.us/mdot)

Equal Opportunity Use:

Plan received \_\_\_\_/\_\_\_\_/\_\_\_\_ Verified by: \_\_\_\_\_ Action: \_\_\_\_\_



## Office of Human Resources

### Equal Opportunity

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## MAINE DEPARTMENT OF TRANSPORTATION

Certified Disadvantaged and Women Business Enterprise

DBE DIRECTORY - MINORITY OWNED

WBE DIRECTORY - WOMEN OWNED

WEBSITE FOR DIRECTORY CAN BE FOUND AT:

[http://www.state.me.us/mdot/humnres/o\\_equalo/cdwbed\\_h.htm](http://www.state.me.us/mdot/humnres/o_equalo/cdwbed_h.htm)

*It is the responsibility of the Contractor to access the DBE Directory at this site in order to have the most current listings.*



**JACKMAN- NEWTON FIELD**  
**RUNWAY RECONSTRUCTION**  
**JACKMAN – SOMERSET COUNTY**  
**PIN 010402.00**

**Appendices**

Jackman  
Runway Reconstruction  
PIN 010402.00

#### PERMITS

The contractor shall not start work until permits have been issued. Once permits, if any, are available they will be supplied as an addendum or to the successful bidder.

**JACKMAN- NEWTON FIELD**  
**RUNWAY RECONSTRUCTION**  
**JACKMAN – SOMERSET COUNTY**  
**PIN 010402.00**

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Permits

**JACKMAN- NEWTON FIELD**  
**RUNWAY RECONSTRUCTION**  
**JACKMAN – SOMERSET COUNTY**  
**PIN 010402.00**

**SECTION 1**

**STATE OF MAINE DEPARTMENT OF TRANSPORTATION  
NOTICE TO CONTRACTORS**

Sealed Bids addressed to the Maine Department of Transportation, Augusta, Maine 04333 and endorsed on the wrapper "Bids for reconstruction of runway 14- 32 at Newton Field in Jackman, Maine" will be received from contractors at the Reception Desk, Maine DOT Building, Child Street, Augusta, Maine, until 11:00 o'clock A.M. (prevailing time) on May 5, 2004, and at that time and place publicly opened and read. Bids will be accepted from contractors prequalified by the Department of Transportation for Highway projects. All other Bids may be rejected. **MDOT provides the option of electronic bidding. We accept electronic bids for those bid packages posted on the bidx.com website. Electronic bids do not have to be accompanied by paper bids. Please note: the Department will accept a facsimile of the bid bond; however, the original bid bond must then be received at the MDOT Contract Section within 72 hours of the bid opening. During this transition, dual bids (one paper, one electronic) will be accepted, with the paper copy taking precedence.**

Description: FAA AIP 3-23-0026-07 , PIN 010402.00

Location: In Somerset County, project is located at Newton Field in Jackman , Maine.

Outline of Work: Reconstruct, Mark, and Light Runway 14- 32 and Obstruction Removal/ Vegetation Management Plan

For general information regarding Bidding and Contracting procedures, contact **Scott Bickford** at (207)624-3410. Our webpage at <http://www.state.me.us/mdot/project/design/homepg.htm> contains a copy of the schedule of items, Plan Holders List, written portions of bid amendments (not drawings), and bid results. For Project-specific information fax all questions to Project Manager **Andy MacDonald** at (207)624-3401. Questions received after 12:00 noon of Monday prior to bid date will not be answered. Bidders shall not contact any other Departmental staff for clarification of Contract provisions, and the Department will not be responsible for any interpretations so obtained. Hearing impaired persons may call the Telecommunication Device for the Deaf at (207) 624-3007.

Plans, specifications and bid forms may be seen at the Maine Department of Transportation, Augusta, Maine and at the Department of Transportation's Division Office in Fairfield. They may be purchased from the Department between the hours of 8:00 a.m. to 4:30 p.m. by cash, credit card (Visa/Mastercard) or check payable to Treasurer, State of Maine sent to Maine Department of Transportation, Attn.: Mailroom, 16 State House Station, Augusta, Maine 04333-0016. They also may be purchased by telephone at (207)624-3536 between the hours of 8:00 a.m. to 4:30 p.m. Full size plans \$20.00 (\$23.50 by mail). Half size plans \$10.00 (\$12.25 by mail), Bid Book \$10 (\$13 by mail), Single Sheets \$2, payment in advance, all non-refundable.

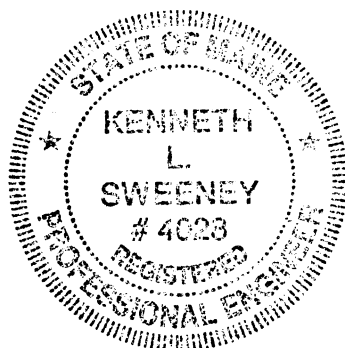
Each Bid must be made upon blank forms provided by the Department and must be accompanied by a bid bond at 5% of the bid amount or an official bank check, cashier's check, certified check, certificate of deposit, or United States postal money order in the amount of \$40,000 payable to Treasurer, State of Maine as a Bid guarantee. A Contract Performance Surety Bond and a Contract Payment Surety Bond, each in the amount of 100 percent of the Contract price, will be required of the successful Bidder.

This Contract is subject to all applicable Federal Laws. This contract is subject to compliance with the Disadvantaged Business Enterprise program requirements as set forth by the Maine Department of Transportation.

All work shall be governed by "State of Maine, Department of Transportation, Standard Specifications, Revision of December 2002", price \$10 [\$13 by mail], and Standard Details, Revision of December 2002, price \$20 [\$25 by mail]. Standard Detail updates can be found at <http://www.state.me.us/mdot/project/design/homepg.htm>

The right is hereby reserved to the MDOT to reject any or all bids.

Augusta, Maine  
April 14, 2004



  
For **JOHN E. DORITY**  
CHIEF ENGINEER

**SPECIAL PROVISION 102.7.3**  
**ACKNOWLEDGMENT OF BID AMENDMENTS**  
**&**  
**SUBMISSION OF BID BOND VALIDATION NUMBER (IF APPLICABLE)**

With this form, the Bidder acknowledges its responsibility to check for all Amendments to the Bid Package. For each Project under Advertisement, Amendments are located at <http://www.maine.gov/mdot/comprehensive-list-projects/project-information.php>. It is the responsibility of the Bidder to determine if there are Amendments to the Project, to download them, to incorporate them into their Bid Package, and to reference the Amendment number and the date on the form below. The Maine DOT will not post Bid Amendments any later than noon the day before Bid opening without individually notifying all the planholders.

Amendment Number	Date

The Contractor, for itself, its successors and assigns, hereby acknowledges that it has received all of the above referenced Amendments to the Bid Package.

CONTRACTOR

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of authorized representative

\_\_\_\_\_  
(Name and Title Printed)

**REQUIREMENT FOR CERTIFICATION FOR NONSEGREGATED FACILITIES:**

A certification of Nonsegregated Facilities must be submitted at the time of the bid opening of a contract or subcontract exceeding \$10,000 which is not exempt from the provisions of the equal opportunity clause.

Certification - The information above is true and complete to the best of my knowledge and belief.

\_\_\_\_\_  
Name and Title of Signer (Please type)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

*Note: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.*

TO BE INCLUDED IN ALL SOLICITATIONS



## BIDDER'S CERTIFICATION

- A. Section 60-1.7(b) of the Regulations of the Secretary of Labor requires each bidder or prospective prime contractor and proposed subcontractor, where appropriate, to state in the bid whether it has participated in any previous contract or subcontract subject to the equal opportunity clause; and if so, whether it has filed with the Joint Reporting Committee, the Director, an agency, or the former President's Committee on Equal Employment Opportunity all reports due under the applicable filing requirements. In any case in which a bidder or prospective prime contractor or proposed subcontractor has participated in a previous contract subject to executive Orders 10925, 11114, or 11246 (Fed. Reg. 12319-25, as amended) and has not filed a report due under the applicable filing requirements, no contract or subcontract shall be awarded unless such contractor submits a report covering the delinquent period or such other period specified by the FAA or the Director, OFCC.
- B. To effectuate these requirements, the Bidder shall complete and sign the following statement by checking the appropriate spaces.

The Bidder ( has / has not ) participated in a previous contract subject to the equal opportunity clause prescribed by Executive Order 10925, or Executive Order 11246, or Executive Order 11114.

The Bidder ( has / has not ) submitted all compliance reports in connection with any such contract due under the applicable filing requirements; and that representation indicating submission of required compliance reports signed by proposed subcontractors will be obtained prior to award of subcontract.

If the Bidder has participated in a previous contract subject to the equal opportunity clause and has not submitted compliance reports due under applicable filing requirements, the bidder shall submit a compliance report on Standard Form 100, "Employee Information Report EEO-1" within seven calendar days after Bid opening.

The Bidder ( has / has not ) been considered for sanction due to violation of Executive Order 11246, as amended.

\_\_\_\_\_  
(signature)

\_\_\_\_\_  
(date)

\_\_\_\_\_  
(typed name and title)

TO BE INCLUDED IN ALL SOLICITATIONS

MAINE DEPARTMENT OF TRANSPORTATION

BID

DATE OF OPENING :

CALL ORDER :

CONTRACT ID : 010402.00

PROJECTS

-----  
AIP3-23-0026-07

COUNTY : SOMERSET

## SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 010402.00

PROJECT(S): AIP3-23-0026-07

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
SECTION 0001 AIRFIELD ITEMS						
0010	201.11 CLEARING	6.000				
		AC				
0020	203.22 UNCLASSIFIED EXCAVATION	240.000				
		CY				
0030	203.25 GRANULAR BORROW	11100.000				
		CY				
0040	304.3 CRUSHED AGGREGATE BASE COURSE	9700.000				
		CY				
0050	306.1 RECLAIMED MATERIAL FOR SUBBASE	21400.000				
		SY				
0060	403.3 AIRFIELD PAVEMENT	4900.000				
		T				
0070	409.15 BITUMINOUS TACK COAT APPLIED	2700.000				
		G				
0080	410.1 BITUMINOUS PRIME COAT	5400.000				
		G				
0090	603.17 18 INCH CULVERT PIPE OPTION I	8.000				
		LF				
0100	604.16 ALTERING CATCH BASIN TO MANHOLES	1.000				
		EA				

## SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 010402.00

PROJECT(S): AIP3-23-0026-07

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS   CTS	BID AMOUNT DOLLARS   CTS
0110	604.249 CATCH BASIN TYPE F6-C	1.000 EA		
0120	615.0701 LOAM - PLAN QUANTITY	268.000 CY		
0130	618.1401 SEEDING METHOD NUMBER 2 - PLAN QUANTITY	268.000 UN		
0140	619.1201 MULCH - PLAN QUANTITY	268.000 UN		
0150	627.9 PAVEMENT PAINTING	4500.000 SF		
0160	639.19 FIELD OFFICE TYPE B	1.000 EA		
0170	653.21 1 1/2 INCH POLYSTYRENE PLASTIC INSULATION	45800.000 SY		
0180	656.75 TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	LUMP	LUMP	
0190	659.10 MOBILIZATION	LUMP	LUMP	
0200	715.2.1 NEW L861-T TAXIWAY EDGE LIGHT	14.000 EA		
0210	715.2.2 NEW L861 RUNWAY LIGHT	27.000 EA		

## SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 010402.00

PROJECT(S): AIP3-23-0026-07

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS   CTS	BID AMOUNT DOLLARS   CTS
0220	715.2.3 NEW L861SE RUNWAY END LIGHT	12.000 EA		
0230	715.2.4 NEW L867B HANDHOLE	2.000 EA		
0240	715.3.1 2" 1-WAY PVC DUCT - UNENCASED	7400.000 LF		
0250	715.3.2 4" 2-WAY PVC DUCT - CONCRETE ENCASED	50.000 LF		
0260	715.3.3 ELECTRIC HANDHOLE	5.000 EA		
0270	715.4.1 1/C #8 5KV CABLE - INSTALLED IN DUCT / CONDUIT	18000.000 LF		
0280	715.5.1 VAULT WORK	LUMP	LUMP	
	SECTION 0001 TOTAL			
	TOTAL BID			

## **CONTRACT AGREEMENT, OFFER & AWARD**

AGREEMENT made on the date last signed below, by and between the State of Maine, acting through and by its Department of Transportation (Department), an agency of state government with its principal administrative offices located at Child Street, Augusta, Maine, with a mailing address at 16 State House Station, Augusta, Maine 04333-0016, and

\_\_\_\_\_ a corporation or other legal entity organized under the laws of the State of Maine, with its principal place of business located at \_\_\_\_\_

The Department and the Contractor, in consideration of the mutual promises set forth in this Agreement (the "Contract"), hereby agree as follows:

### **A. The Work.**

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, PIN No. 010402.00, for the Runway Reconstruction in the town/city of Jackman, County of Somerset, Maine. The Work includes construction, maintenance during construction, warranty as provided in the Contract, and other incidental work.

The Contractor shall be responsible for furnishing all supervision, labor, equipment, tools supplies, permanent materials and temporary materials required to perform the Work including construction quality control including inspection, testing and documentation, all required documentation at the conclusion of the project, warranting its work and performing all other work indicated in the Contract.

The Department shall have the right to alter the nature and extent of the Work as provided in the Contract; payment to be made as provided in the same.

### **B. Time.**

The Contractor agrees to complete all Work, except warranty work, on or before November 30, 2004. Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the State of Maine Department of Transportation Standard Specifications, Revision of December 2002.

### **C. Price.**

The quantities given in the Schedule of Items of the Bid Package will be used as the basis for determining the original Contract amount and for determining the amounts of the required Performance Surety Bond and Payment Surety Bond, and that the amount of this offer is \_\_\_\_\_

\$\_\_\_\_\_ Performance Bond and Payment Bond each being 100% of the amount of this Contract.

**D. Contract.**

This Contract, which may be amended, modified, or supplemented in writing only, consists of the Contract documents as defined in the Plans, Standard Specifications, Revision of December 2002, Standard Details Revision of December 2002 as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds. It is agreed and understood that this Contract will be governed by the documents listed above.

**E. Certifications.**

By signing below, the Contractor hereby certifies that to the best of the Contractor's knowledge and belief:

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in Appendix A to Division 100 of the Standard Specifications Revision of December 2002 (Federal Contract Provisions Supplement), and the Contract are still complete and accurate as of the date of this Agreement.
2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.
3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

**F. Offer.**

The undersigned, having carefully examined the site of work, the Plans, Standard Specifications Revision of December 2002, Standard Details Revision of December 2002 as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of: **Runway Reconstruction- Newton Field, Jackman, Maine,**

State of Maine, on which bids will be received until the time specified in the "Notice to Contractors" do(es) hereby bid and offer to enter into this contract to supply all the materials, tools, equipment and labor to construct the whole of the Work in strict accordance with the terms and conditions of this Contract at the unit prices in the attached "Schedule of Items".

The Offeror agrees to perform the work required at the price specified above and in accordance with the bids provided in the attached "Schedule of Items" in strict accordance with the terms of this solicitation, and to provide the appropriate insurance and bonds if this offer is accepted by the Government in writing.

As Offeror also agrees:

First: To do any extra work, not covered by the attached "Schedule of Items", which may be ordered by the Resident, and to accept as full compensation the amount determined upon a "Force Account" basis as provided in the Standard Specifications, Revision of December 2002, and as addressed in the contract documents.

Second: That the bid bond at 5% of the bid amount or the official bank check, cashier's check, certificate of deposit or U. S. Postal Money Order in the amount given in the "Notice to Contractors", payable to the Treasurer of the State of Maine and accompanying this bid, shall be forfeited, as liquidated damages, if in case this bid is accepted, and the undersigned shall fail to abide by the terms and conditions of the offer and fail to furnish satisfactory insurance and Contract bonds under the conditions stipulated in the Specifications within 15 days of notice of intent to award the contract.

Third: To begin the Work on the date specified in the Engineer's "Notice to Commence Work" as stated in Section 107.2 of the Standard Specifications Revision of December 2002 and complete the Work within the time limits given in the Special Provisions of this Contract.

Fourth: The Contractor will be bound to the Disadvantaged Business Enterprise (DBE) Requirements contained in the attached Notice (Additional Instructions to Bidders) and submit a completed Contractor's Disadvantaged Business Enterprise Utilization Plan by 4:30pm on the day of bid opening to the Contracts Engineer.

Fifth: That this offer shall remain open for 60 calendar days after the date of opening of bids.



Sixth: The Bidder hereby certifies, to the best of its knowledge and belief that: the Bidder has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of competitive bidding in connection with its bid, and its subsequent contract with the Department.

IN WITNESS WHEREOF, the Contractor, for itself, its successors and assigns, hereby execute two duplicate originals of this Agreement and thereby binds itself to all covenants, terms, and obligations contained in the Contract Documents.

CONTRACTOR

\_\_\_\_\_  
Date

\_\_\_\_\_  
(Signature of Legally Authorized Representative  
of the Contractor)

\_\_\_\_\_  
Witness

\_\_\_\_\_  
(Name and Title Printed)

**G. Award.**

Your offer is hereby accepted. This award consummates the Contract, and the documents referenced herein.

MAINE DEPARTMENT OF TRANSPORTATION

\_\_\_\_\_  
Date

\_\_\_\_\_  
By: David A. Cole, Commissioner

\_\_\_\_\_  
Witness

## **CONTRACT AGREEMENT, OFFER & AWARD**

AGREEMENT made on the date last signed below, by and between the State of Maine, acting through and by its Department of Transportation (Department), an agency of state government with its principal administrative offices located at Child Street, Augusta, Maine, with a mailing address at 16 State House Station, Augusta, Maine 04333-0016, and

\_\_\_\_\_ a corporation or other legal entity organized under the laws of the State of Maine, with its principal place of business located at \_\_\_\_\_

The Department and the Contractor, in consideration of the mutual promises set forth in this Agreement (the "Contract"), hereby agree as follows:

### **A. The Work.**

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, PIN No. 010402.00, for the Runway Reconstruction in the town/city of Jackman, County of Somerset, Maine. The Work includes construction, maintenance during construction, warranty as provided in the Contract, and other incidental work.

The Contractor shall be responsible for furnishing all supervision, labor, equipment, tools supplies, permanent materials and temporary materials required to perform the Work including construction quality control including inspection, testing and documentation, all required documentation at the conclusion of the project, warranting its work and performing all other work indicated in the Contract.

The Department shall have the right to alter the nature and extent of the Work as provided in the Contract; payment to be made as provided in the same.

### **B. Time.**

The Contractor agrees to complete all Work, except warranty work, on or before November 30, 2004. Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the State of Maine Department of Transportation Standard Specifications, Revision of December 2002.

### **C. Price.**

The quantities given in the Schedule of Items of the Bid Package will be used as the basis for determining the original Contract amount and for determining the amounts of the required Performance Surety Bond and Payment Surety Bond, and that the amount of this offer is \_\_\_\_\_

\$\_\_\_\_\_ Performance Bond and Payment Bond each being 100% of the amount of this Contract.

**D. Contract.**

This Contract, which may be amended, modified, or supplemented in writing only, consists of the Contract documents as defined in the Plans, Standard Specifications, Revision of December 2002, Standard Details Revision of December 2002 as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds. It is agreed and understood that this Contract will be governed by the documents listed above.

**E. Certifications.**

By signing below, the Contractor hereby certifies that to the best of the Contractor's knowledge and belief:

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in Appendix A to Division 100 of the Standard Specifications Revision of December 2002 (Federal Contract Provisions Supplement), and the Contract are still complete and accurate as of the date of this Agreement.
2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.
3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

**F. Offer.**

The undersigned, having carefully examined the site of work, the Plans, Standard Specifications Revision of December 2002, Standard Details Revision of December 2002 as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of: **Runway Reconstruction- Newton Field, Jackman, Maine,**

State of Maine, on which bids will be received until the time specified in the "Notice to Contractors" do(es) hereby bid and offer to enter into this contract to supply all the materials, tools, equipment and labor to construct the whole of the Work in strict accordance with the terms and conditions of this Contract at the unit prices in the attached "Schedule of Items".

The Offeror agrees to perform the work required at the price specified above and in accordance with the bids provided in the attached "Schedule of Items" in strict accordance with the terms of this solicitation, and to provide the appropriate insurance and bonds if this offer is accepted by the Government in writing.

As Offeror also agrees:

First: To do any extra work, not covered by the attached "Schedule of Items", which may be ordered by the Resident, and to accept as full compensation the amount determined upon a "Force Account" basis as provided in the Standard Specifications, Revision of December 2002, and as addressed in the contract documents.

Second: That the bid bond at 5% of the bid amount or the official bank check, cashier's check, certificate of deposit or U. S. Postal Money Order in the amount given in the "Notice to Contractors", payable to the Treasurer of the State of Maine and accompanying this bid, shall be forfeited, as liquidated damages, if in case this bid is accepted, and the undersigned shall fail to abide by the terms and conditions of the offer and fail to furnish satisfactory insurance and Contract bonds under the conditions stipulated in the Specifications within 15 days of notice of intent to award the contract.

Third: To begin the Work on the date specified in the Engineer's "Notice to Commence Work" as stated in Section 107.2 of the Standard Specifications Revision of December 2002 and complete the Work within the time limits given in the Special Provisions of this Contract.

Fourth: The Contractor will be bound to the Disadvantaged Business Enterprise (DBE) Requirements contained in the attached Notice (Additional Instructions to Bidders) and submit a completed Contractor's Disadvantaged Business Enterprise Utilization Plan by 4:30pm on the day of bid opening to the Contracts Engineer.

Fifth: That this offer shall remain open for 60 calendar days after the date of opening of bids.

Sixth: The Bidder hereby certifies, to the best of its knowledge and belief that: the Bidder has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of competitive bidding in connection with its bid, and its subsequent contract with the Department.

IN WITNESS WHEREOF, the Contractor, for itself, its successors and assigns, hereby execute two duplicate originals of this Agreement and thereby binds itself to all covenants, terms, and obligations contained in the Contract Documents.

CONTRACTOR

\_\_\_\_\_  
Date

\_\_\_\_\_  
(Signature of Legally Authorized Representative  
of the Contractor)

\_\_\_\_\_  
Witness

\_\_\_\_\_  
(Name and Title Printed)

**G. Award.**

Your offer is hereby accepted.  
documents referenced herein.

This award consummates the Contract, and the

MAINE DEPARTMENT OF TRANSPORTATION

\_\_\_\_\_  
Date

\_\_\_\_\_  
By: David A. Cole, Commissioner

\_\_\_\_\_  
Witness

## CONTRACT AGREEMENT, OFFER & AWARD

AGREEMENT made on the date last signed below, by and between the State of Maine, acting through and by its Department of Transportation (Department), an agency of state government with its principal administrative offices located at Child Street Augusta, Maine, with a mailing address at 16 State House Station, Augusta, Maine 04333-0016, and  
(Name of the firm bidding the job)  
a corporation or other legal entity organized under the laws of the State of Maine, with its principal place of business located at (address of the firm bidding the job)

The Department and the Contractor, in consideration of the mutual promises set forth in this Agreement (the "Contract"), hereby agree as follows:

### **A. The Work.**

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, PIN No. 1224.00, for the Hot Mix Asphalt Overlay in the town/city of West Eastport, County of Washington, Maine. The Work includes construction, maintenance during construction, warranty as provided in the Contract, and other incidental work.

The Contractor shall be responsible for furnishing all supervision, labor, equipment, tools supplies, permanent materials and temporary materials required to perform the Work including construction quality control including inspection, testing and documentation, all required documentation at the conclusion of the project, warranting its work and performing all other work indicated in the Contract.

The Department shall have the right to alter the nature and extent of the Work as provided in the Contract; payment to be made as provided in the same.

### **B. Time.**

The Contractor agrees to complete all Work, except warranty work, on or before November 15, 2003. Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the State of Maine Department of Transportation Standard Specifications, Revision of December 2002.

**C. Price.**

The quantities given in the Schedule of Items of the Bid Package will be used as the basis for determining the original Contract amount and for determining the amounts of the required Performance Surety Bond and Payment Surety Bond, and that the amount of this offer is (Place bid here in alphabetical form such as One Hundred and Two dollars and 10 cents)  
\$ (repeat bid here in numerical terms, such as \$102.10) Performance Bond and Payment Bond each being 100% of the amount of this Contract.

**D. Contract.**

This Contract, which may be amended, modified, or supplemented in writing only, consists of the Contract documents as defined in the Plans, Standard Specifications, Revision of December 2002, Standard Details Revision of December 2002, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds. It is agreed and understood that this Contract will be governed by the documents listed above.

**E. Certifications.**

By signing below, the Contractor hereby certifies that to the best of the Contractor's knowledge and belief:

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in Appendix A to Division 100 of the Standard Specifications Revision of December 2002 (Federal Contract Provisions Supplement), and the Contract are still complete and accurate as of the date of this Agreement.
2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.
3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

**F. Offer.**

The undersigned, having carefully examined the site of work, the Plans, Standard Specifications, Revision of December 2002, Standard Details Revision of December 2002, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of:

**PIN 1234.00 West Eastport, Hot Mix Asphalt Overlay**

State of Maine, on which bids will be received until the time specified in the "Notice to Contractors" do(es) hereby bid and offer to enter into this contract to supply all the materials, tools, equipment and labor to construct the whole of the Work in strict accordance with the terms and conditions of this Contract at the unit prices in the attached "Schedule of Items".

The Offeror agrees to perform the work required at the price specified above and in accordance with the bids provided in the attached "Schedule of Items" in strict accordance with the terms of this solicitation, and to provide the appropriate insurance and bonds if this offer is accepted by the Government in writing.

As Offeror also agrees:

First: To do any extra work, not covered by the attached "Schedule of Items", which may be ordered by the Resident, and to accept as full compensation the amount determined upon a "Force Account" basis as provided in the Standard Specifications, Revision of December 2002, and as addressed in the contract documents.

Second: That the bid bond at 5% of the bid amount or the official bank check, cashier's check, certificate of deposit or U. S. Postal Money Order in the amount given in the "Notice to Contractors", payable to the Treasurer of the State of Maine and accompanying this bid, shall be forfeited, as liquidated damages, if in case this bid is accepted, and the undersigned shall fail to abide by the terms and conditions of the offer and fail to furnish satisfactory insurance and Contract bonds under the conditions stipulated in the Specifications within 15 days of notice of intent to award the contract.

Third: To begin the Work on the date specified in the Engineer's "Notice to Commence Work" as stated in Section 107.2 of the Standard Specifications Revision of 2002 and complete the Work within the time limits given in the Special Provisions of this Contract.

Fourth: The Contractor will be bound to the Disadvantaged Business Enterprise (DBE) Requirements contained in the attached Notice (Additional Instructions to Bidders) and submit a completed Contractor's Disadvantaged Business Enterprise Utilization Plan by 4:30pm on the day of bid opening to the Contracts Engineer.

Fifth: That this offer shall remain open for 30 calendar days after the date of opening of bids.



Sixth: The Bidder hereby certifies, to the best of its knowledge and belief that: the Bidder has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of competitive bidding in connection with its bid, and its subsequent contract with the Department.

IN WITNESS WHEREOF, the Contractor, for itself, its successors and assigns, hereby execute two duplicate originals of this Agreement and thereby binds itself to all covenants, terms, and obligations contained in the Contract Documents.

CONTRACTOR  
(Sign Here)  
\_\_\_\_\_  
(Signature of Legally Authorized Representative  
of the Contractor)  
(Witness Sign Here) \_\_\_\_\_ (Print Name Here)  
Witness \_\_\_\_\_ (Name and Title Printed)

**G. Award.**

Your offer is hereby accepted.  
documents referenced herein.

This award consummates the Contract, and the

MAINE DEPARTMENT OF TRANSPORTATION

\_\_\_\_\_  
Date

\_\_\_\_\_  
By: David A. Cole, Commissioner

\_\_\_\_\_  
(Witness)

BOND # \_\_\_\_\_

CONTRACT PERFORMANCE BOND  
(Surety Company Form)

KNOW ALL MEN BY THESE PRESENTS: That \_\_\_\_\_  
\_\_\_\_\_ and the State of \_\_\_\_\_, as principal,  
and.....  
a corporation duly organized under the laws of the State of ..... and having a  
usual place of business .....  
as Surety, are held and firmly bound unto the Treasurer of the State of Maine in the sum  
of \_\_\_\_\_ and 00/100 Dollars (\$ \_\_\_\_\_),  
to be paid said Treasurer of the State of Maine or his successors in office, for which  
payment well and truly to be made, Principal and Surety bind themselves, their heirs,  
executors and administrators, successors and assigns, jointly and severally by these  
presents.

The condition of this obligation is such that if the Principal designated as Contractor in  
the Contract to construct Project Number \_\_\_\_\_ in the Municipality of  
\_\_\_\_\_ promptly and faithfully performs the Contract, then this  
obligation shall be null and void; otherwise it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the State  
of Maine.

Signed and sealed this ..... day of ....., 20.....

WITNESSES:

Signature.....  
Print Name Legibly .....

Signature .....  
Print Name Legibly .....

SURETY ADDRESS:

.....  
.....  
.....  
TELEPHONE.....

SIGNATURES:

CONTRACTOR:

.....  
Print Name Legibly .....

SURETY:

.....  
Print Name Legibly .....

NAME OF LOCAL AGENCY:

ADDRESS .....  
.....  
.....

BOND # \_\_\_\_\_

CONTRACT PAYMENT BOND  
(Surety Company Form)

KNOW ALL MEN BY THESE PRESENTS: That \_\_\_\_\_  
\_\_\_\_\_ and the State of \_\_\_\_\_, as principal,  
and.....  
a corporation duly organized under the laws of the State of ..... and having a  
usual place of business in .....  
as Surety, are held and firmly bound unto the Treasurer of the State of Maine for the use  
and benefit of claimants as herein below defined, in the sum of  
\_\_\_\_\_ and 00/100 Dollars (\$) )  
for the payment whereof Principal and Surety bind themselves, their heirs, executors and  
administrators, successors and assigns, jointly and severally by these presents.

The condition of this obligation is such that if the Principal designated as Contractor in  
the Contract to construct Project Number \_\_\_\_\_ in the Municipality of  
\_\_\_\_\_ promptly satisfies all claims and demands incurred for all  
labor and material, used or required by him in connection with the work contemplated by  
said Contract, and fully reimburses the obligee for all outlay and expense which the  
obligee may incur in making good any default of said Principal, then this obligation shall  
be null and void; otherwise it shall remain in full force and effect.

A claimant is defined as one having a direct contract with the Principal or with a  
Subcontractor of the Principal for labor, material or both, used or reasonably required for  
use in the performance of the contract.

Signed and sealed this ..... day of ....., 20 ... .

WITNESS:

SIGNATURES:

CONTRACTOR:

Signature.....

Print Name Legibly .....

Print Name Legibly .....

SURETY:

Signature.....

Print Name Legibly .....

Print Name Legibly .....

SURETY ADDRESS:

NAME OF LOCAL AGENCY:

.....

ADDRESS .....

.....

.....

TELEPHONE .....

.....

General Decision Number ME030009 06/13/2003 ME9

Superseded General Decision No. ME020009

State: Maine

Construction Type:  
HIGHWAY

County(ies):

AROOSTOOK	KNOX	SAGADAHOC
FRANKLIN	LINCOLN	SOMERSET
HANCOCK	OXFORD	WALDO
KENNEBEC	PISCATAQUIS	YORK

HIGHWAY CONSTRUCTION PROJECTS excluding major bridging (for example: bascule, suspension and spandrel arch bridges; those bridging waters presently navigating or to be navigatable; and those involving marine construction in any degree); tunnels, building structures in rest area projects and railroad construction.

Modification Number	Publication Date
0	06/13/2003

COUNTY(ies):

AROOSTOOK	KNOX	SAGADAHOC
FRANKLIN	LINCOLN	SOMERSET
HANCOCK	OXFORD	WALDO
KENNEBEC	PISCATAQUIS	YORK

ENGI0004V 04/01/2003

	Rates	Fringes
POWER EQUIPMENT OPERATORS:		
Pavers	16.51	6.00
Rollers	16.51	6.00

SUME4024A 10/24/2000

	Rates	Fringes
CARPENTERS	11.60	1.51
IRONWORKERS		
Structural	12.03	1.58
LABORERS		
Drillers	10.00	2.50
Flaggers	6.00	
Guardrail Installers	7.92	
Landscape	7.87	.16
Line Stripper	8.69	.23
Pipelayers	9.21	2.31
Rakers	9.00	1.51
Sign Erectors	10.00	
Unskilled	8.66	1.38
Wheelman	8.50	.43
POWER EQUIPMENT OPERATORS		
Backhoes	11.87	2.05
Bulldozers	12.33	2.88

Cranes	14.06	1.75
Excavators	12.38	2.48
Graders	13.06	3.73
Loaders	11.41	2.87
Mechanics	13.18	2.57

#### TRUCK DRIVERS

Dump	9.35	3.10
Tri axle	8.70	1.18
Two axle	8.56	2.19

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR 5.5(a)(1)(ii)).

In the listing above, the "SU" designation means that rates listed under that identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

#### WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U. S. Department of Labor  
200 Constitution Avenue, N. W.  
Washington, D. C. 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator

(See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor  
200 Constitution Avenue, N. W.  
Washington, D. C. 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U. S. Department of Labor  
200 Constitution Avenue, N. W.  
Washington, D. C. 20210

4.) All decisions by the Administrative Review Board are final.  
END OF GENERAL DECISION

□

**JACKMAN- NEWTON FIELD**  
**RUNWAY RECONSTRUCTION**  
**JACKMAN – SOMERSET COUNTY**  
**PIN 010402.00**

**SECTION 2**

**SPECIAL PROVISION**  
(Consolidated Special Provisions)

**SPECIAL PROVISION SECTION 101**  
**CONTRACT INTERPRETATION**

**101.2 Definitions - Closeout Documentation**

Replace the sentence “A letter stating the amount..... DBE goals.” with “DBE Goal Attainment Verification Form”

**SPECIAL PROVISION SECTION 102**  
**DELIVERY OF BIDS**  
(Location and Time)

**102.7.1 Location and Time** Add the following sentence “As a minimum, the Bidder will submit a Bid Package consisting of the Notice to Contractors, the completed Acknowledgement of Bid Amendments & Submission of Bid Bond Validation Number form, the completed Schedule of Items, 2 copies of the completed Agreement, Offer, & Award form, a Bid Bond or Bid Guarantee, and any other Certifications or Bid Requirements listed in the Bid Book.”

**SPECIAL PROVISION SECTION 103**  
**AWARD AND CONTRACTING**

**103.3.1 Notice and Information Gathering**

Change the first paragraph to read as follows: “After Bid Opening and as a condition for Award of a Contract, the Department may require an Apparent Successful Bidder to demonstrate to the Department’s satisfaction that the Bidder is responsible and qualified to perform the Work.”

**SPECIAL PROVISION SECTION 105**  
**GENERAL SCOPE OF WORK**

**105.6.2 Contractor Provided Services**

Change the first paragraph by the addition of the following as the second sentence: “The Contractor is also responsible for providing construction centerline, or close reference points, for all Utility Facilities relocations and adjustments as necessary to complete the Work.”



SPECIAL PROVISION SECTION 106  
QUALITY

106.6 Acceptance Add the following to paragraph 1 of A: "This includes Sections 401 - Hot Mix Asphalt, 402 - Pavement Smoothness, and 502 - Structural Concrete - Method A - Air Content."

Add the following to the beginning of paragraph 3 of A: "For pay factors based on Quality Level Analysis, and"

SPECIAL PROVISION SECTION 107  
TIME

107.3.1 General Add the following: "If a Holiday occurs on a Sunday, the following Monday shall be considered a Holiday. Sunday or Holiday work must be approved by the Department, except that the Contractor may work on Martin Luther King Day, President's Day, Patriot's Day, the Friday after Thanksgiving, and Columbus Day without the Department's approval."

SPECIAL PROVISION SECTION 108  
PAYMENT

108.4 Payment for Materials Obtained and Stored First paragraph, second sentence, delete the words "...Delivered on or near the Work site at acceptable storage places."

SPECIAL PROVISION SECTION 109  
CHANGES

109.1.1 Changes Permitted Add the following to the end of the paragraph: "There will be no adjustment to Contract Time due to an increase or decrease in quantities, compared to those estimated, except as addressed through Contract Modification(s)."

109.1.2 Substantial Changes to Major Items Add the following to the end of the paragraph: "Contract Time adjustments may be made for substantial changes to Major Items when the change affects the Critical Path, as determined by the Department"

109.4.4 Investigation / Adjustment In the third sentence, delete the words "subsections (A) - (E)"

109.7.2 Basis of Payment Replace with the following: "Equitable Adjustments will be established by mutual Agreement for compensable items listed in Section 109.7.3-Compensable Items, based upon Unit or Lump Sum Prices. If Agreement cannot be reached, the Contractor shall accept payment on a Force Account basis as provided in Section 109.7.5 - Force Account Work, as full and complete compensation for all Work relating to the Equitable Adjustment."

109.7.3 Compensable Items Replace with the following: "The Contractor is entitled to compensation for the following items, with respect to agreed upon Unit or Lump Sum Prices:

1. Labor expenses for non-salaried Workers and salaried foremen.
2. Costs for Materials.
3. A markup on the totals of Items 1 and 2 of this subsection 109.7.3 for home office overhead and profit of the Contractor, its Subcontractors and suppliers, and any lower tier Subcontractors or suppliers, with no mark-ups on mark-ups.
4. Cost for Equipment, based on Blue Book Rates or leased rates, as set forth in Section 109.7.5(C), or the Contractor's Actual Costs.
5. Costs for extended job-site overhead.
6. Time.
7. Subcontractor quoted Work, as set forth below in Section 109.7.5 (F)."

#### 109.7.5 Force Account Work

##### C. Equipment

Paragraph 2, delete sentence 1 which starts; "Equipment leased...."

Paragraph 6, change sentence 2 from "The Contractor may furnish..." to read "If requested by the Department, the Contractor will produce cost data to assist the Department in the establishment of such rental rate, including all records that are relevant to the Actual Costs including rental Receipts, acquisition costs, financing documents, lease Agreements, and maintenance and operational cost records."

Add the following paragraph; "Equipment leased by the Contractor for Force Account Work and actually used on the Project will be paid for at the actual invoice amount plus 10% markup for administrative costs."

Add the following section;

"F. Subcontractor Quoted Work When accomplishing Force Account Work that utilizes Subcontractor quoted Work, the Contractor will be allowed a maximum markup of 5% for profit and overhead."

#### SPECIAL PROVISION SECTION 401 HOT MIX ASPHALT PAVEMENT

401.18 Quality Control Method A & B Make the following change to paragraph a. QCP Administrator; in the final sentence, change "...certified as a Plant Technician or Paving Inspector..." to "...certified as a Quality Assurance Technologist..."

401.201 Method A Under a. Lot Size, add the following; "Each lot will be divided into a minimum of four sublots for mix properties and five sublots for percent TMD."

#### SPECIAL PROVISION SECTION 402 PAVEMENT SMOOTHNESS

Add the following: "Projects to have their pavement smoothness analyzed in accordance with this Specification will be so noted in Special Provision 403 - Bituminous Box."

"402.02 Lot Size Lot size for smoothness will be 1000 lane-meters [3000 lane-feet]. A subplot will consist of 20 lane-meters [50 lane-feet]. Partial lots will be included in the previous lot if less than one-half the size of a normal lot. If greater than one-half the normal lot size, it will be tested as a separate lot."

#### SPECIAL PROVISION SECTION 502 STRUCTURAL CONCRETE

502.0502 Quality Assurance Method A - Rejection by Resident Change the first sentence to read: "For an individual subplot with test results failing to meet the criteria in Table #1, or if the calculated pay factor for Air Content is less than 0.80....."

502.0503 Quality Assurance Method B - Rejection by Resident Change the first sentence to read: "For material represented by a verification test with test results failing to meet the criteria in Table #1, the Department will....."

502.0505 Resolution of Disputed Acceptance Test Results Combine the second and third sentence to read: "Circumstances may arise, however, where the Department may ....."

#### SPECIAL PROVISION SECTION 504

## REINFORCING STEEL

504.18 Plates for Fabricated Members Change the second paragraph, first sentence from: "...ASTM A 898/A 898 M..." to "...ASTM A 898/A 898 M or ASTM A 435/A 435 M as applicable and..."

## SPECIAL PROVISION SECTION 535 PRECAST, PRESTRESSED CONCRETE SUPERSTRUCTURE

535.02 Materials Change "Steel Strand for Concrete Reinforcement" to "Steel Strand." Add the following to the beginning of the third paragraph; "Concrete shall be Class P conforming to the requirements in this section. 28 day compressive strength shall be as stated on the plans. Coarse aggregate...."

535.26 Lateral Post-Tensioning Replace the first paragraph; "A final tension..." with "Overstressing strands for setting losses cannot be accomplished for chuck to chuck lengths of 7.6 m [25 ft] and less. In such instances, refer to the Plans for all materials and methods. Otherwise, post-tensioning shall be in accordance with PCI standards and shall provide the anchorage force noted in the Plans. The applied jacking force shall be no less than 100% of the design jacking force."

## SPECIAL PROVISION SECTION 604 MANHOLES, INLETS, AND CATCH BASINS

604.02 Materials Add the following:

"Tops and Traps	712.07
Corrugated Metal Units	712.08
Catch Basin and Manhole Steps	712.09"

## SPECIAL PROVISION SECTION 615 LOAM

615.02 Materials Make the following change:

<u>Organic Content</u>	<u>Percent by Volume</u>
Humus	"5% - 10%", as determined by Ignition Test

## SPECIAL PROVISION SECTION 618 SEEDING

618.01 Description Change the first sentence to read as follows: "This work shall consist of furnishing and applying seed ....." Also remove "and cellulose fiber mulch" from 618.01(a).

618.03 Rates of Application In 618.03(a), remove the last sentence and replace with the following: "These rates shall apply to Seeding Method 2, 3, and Crown Vetch."

In 618.03(c) "1.8 kg [4 lb]/unit." to "1.95 kg [4 lb]/unit."

618.09 Construction Method In 618.09(a) 1, sentence two, replace "100 mm [4 in]" with "25 mm [1 in] (Method 1 areas) and 50 mm [2 in] (Method 2 areas)"

618.15 Temporary Seeding Change the Pay Unit from Unit to Kg [lb].

## SPECIAL PROVISION SECTION 620 GEOTEXTILES

### 620.03 Placement Section (c)

Title: Replace "Non-woven" in title with "Erosion Control".

First Paragraph: Replace first word "Non-woven" with "Woven monofilament".

Second Paragraph: Replace second word "Non-woven" with "Erosion Control".

### 620.07 Shipment, Storage, Protection and Repair of Fabric Section (a)

Replace the third sentence with the following: "Damaged geotextiles, as identified by the Resident, shall be repaired immediately."

### 620.09 Basis of Payment

Pay Item 620.58: Replace "Non-woven" with "Erosion Control"

Pay Item 620.59: Replace "Non-woven" with "Erosion Control"

## SPECIAL PROVISION SECTION 626 HIGHWAY SIGNING

626.034 Concrete Foundations Add to the following to the end of the second paragraph: "Pre-cast and cast-in-place foundations shall be warranted against leaning and corrosion for two years after the project is completed. If the lean is greater than 2 degrees from normal or the foundation is spalling within the first two years, the Contractor shall replace the foundation at no extra cost."

## SPECIAL PROVISION SECTION 637 DUST CONTROL

637.06 Basis of Payment Add the following after the second sentence of the third paragraph: "Failure by the Contractor to follow Standard Specification or Special Provision - Section 637 and/or the Contractor's own Soil Erosion and Pollution Control Plan concerning Dust Control and/or the Contractor's own Traffic Control Plan concerning Dust Control and/or visible evidence of excessive dust problems, as determined by the Resident, will result in a reduction in payment, computed by reducing the Lump Sum Total by 5% per occurrence per day. The Department's Resident or any other representative of the Department reserves the right to suspend the work at any time and request a meeting to discuss violations and remedies. The Department shall not be held responsible for any delay in the work due to any suspension under this item. Additional penalties may also be assessed in accordance with Special Provision 652 - Work Zone Traffic Control and Standard Specification 656 - Temporary Soil Erosion and Water Pollution Control."

### SPECIAL PROVISION SECTION 639 ENGINEERING FACILITIES

639.04 Field Offices Change the forth to last paragraph from: "The Contractor shall provide a fully functional desktop copier..." to "....desktop copier/scanner..."

### SPECIAL PROVISION SECTION 652 MAINTENANCE OF TRAFFIC

652.8.2 Other Items Replace the last paragraph with the following: "There will be no payment made under any 652 pay items after the expiration of the adjusted total contract time."

### SPECIAL PROVISION SECTION 656 TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL

656.5.1 If Pay Item 656.75 Provided Replace the second paragraph with the following: "Failure by the Contractor to follow Standard Specification or Special Provision - Section 656 and/or the Contractor's own Soil Erosion and Pollution Control Plan will result in a reduction in payment, computed by reducing the Lump Sum Total by 5% per occurrence per day. The Department's Resident or any other representative of the Department reserves the right to suspend the work at any time and request a meeting to discuss violations and remedies. The Department shall not be held responsible for any delay in the work due to any suspension under this item."

### SPECIAL PROVISION SECTION 703 AGGREGATES

703.06 Aggregate for Base and Subbase Delete the first paragraph: "The material shall have..." and replace with "The material shall have a minimum degradation value of 15 as determined by Washington State DOT Test Method T113, Method of Test for Determination of Degradation Value (March 2002 version), except that the reported degradation value will be the result of testing a single specimen from that portion of a sample that passes the 12.5 mm [½ in] sieve and is retained on the 2.00 mm [No. 10] sieve, minus any reclaimed asphalt pavement used."

703.07 Aggregates for HMA Pavements Delete the forth paragraph: "The composite blend shall have..." and replace with "The composite blend, minus any reclaimed asphalt pavement used, shall have a Micro-Deval value of 18.0 or less as determined by AASHTO TP 58. In the event the material exceeds the Micro Deval limit, a Washington Degradation test shall be performed. The material shall be acceptable if it has a value of 30 or more as determined by Washington State DOT Test Method T 113, Method of Test for Determination of Degradation Value (March 2002 version) except that the reported degradation value will be the result of testing a single composite specimen from that portion of the sample that passes the 12.5mm [1/2 inch] sieve and is retained on the 2.00mm [No 10] sieve, minus any reclaimed asphalt pavement used."

703.22 Underdrain Backfill Material Change the first paragraph from "...for Underdrain Type B..." to "...for Underdrain Type B and C..."

## SPECIAL PROVISION SECTION 709 REINFORCING STEEL AND WELDED STEEL WIRE FABIC

709.03 Steel Strand Change the second paragraph from "...shall be 12mm [½ inch] AASHTO M203M/M203 (ASTM A416/A416M)..." to "...shall be 15.24 mm [0.600 inch] diameter AASHTO M203 (ASTM A416)..."

## SPECIAL PROVISION SECTION 712 MISCELLANEOUS HIGHWAY MATERIALS

Add the following:

"712.07 Tops, and Traps These metal units shall conform to the plan dimensions and to the following specification requirements for the designated materials.

Gray iron castings shall conform to the requirements of AASHTO M105, Class 30, unless otherwise designated.

Carbon steel castings shall conform to the requirements of AASHTO M103/M103M. Grade shall be 450-240 [65-35] unless otherwise designated.

Structural steel shall conform to the requirements of AASHTO M183/M183M or ASTM A283/A283M, Grade B or better. Galvanizing, where specified for these units, shall conform to the requirements of AASHTO M111.

712.08 Corrugated Metal Units The units shall conform to plan dimensions and the metal to AASHTO M36/M36M. Bituminous coating, when specified, shall conform to AASHTO M190 Type A.

712.09 Catch Basin and Manhole Steps Steps for catch basins and for manholes shall conform to ASTM C478M [ASTM C478], Section 13 for either of the following material:

(a) Aluminum steps-ASTM B221M, [ASTM B211] Alloy 6061-T6 or 6005-T5.

(b) Reinforced plastic steps Steel reinforcing bar with injection molded plastic coating copolymer polypropylene. Polypropylene shall conform to ASTM D 4101.

712.23 Flashing Lights Flashing Lights shall be power operated or battery operated as specified.

(a) Power operated flashing lights shall consist of housing, adapters, lamps, sockets, reflectors, lens, hoods and other necessary equipment designed to give clearly visible signal indications within an angle of at least 45 degrees and from 3 to 90 m [10 to 300 ft] under all light and atmospheric conditions.

Two circuit flasher controllers with a two-circuit filter capable of providing alternate flashing operations at the rate of not less than 50 nor more than 60 flashes per minute shall be provided.

The lamps shall be 650 lumens, 120 volt traffic signal lamps with sockets constructed to properly focus and hold the lamp firmly in position.

The housing shall have a rotatable sun visor not less than 175 mm [7 in] in length designed to shield the lens.

Reflectors shall be of such design that light from a properly focused lamp will reflect the light rays parallel. Reflectors shall have a maximum diameter at the point of contact with the lens of approximately 200 mm [8 in].

The lens shall consist of a round one-piece convex amber material which, when mounted, shall have a visible diameter of approximately 200 mm [8 in]. They shall distribute light and not diffuse it. The distribution of the light shall be asymmetrical in a downward direction. The light distribution of the lens shall not be uniform, but shall consist of a small high intensity portion with narrow distribution for long distance throw and a larger low intensity portion with wide



distribution for short distance throw. Lenses shall be marked to indicate the top and bottom of the lens.

(b) Battery operated flashing lights shall be self-illuminated by an electric lamp behind the lens. These lights shall also be externally illuminated by reflex-reflective elements built into the lens to enable it to be seen by reflex-reflection of the light from the headlights of oncoming traffic. The batteries must be entirely enclosed in a case. A locking device must secure the case. The light shall have a flash rate of not less than 50 nor more than 60 flashes per minute from minus 30 °C [minus 20 °F] to plus 65 °C [plus 150 °F]. The light shall have an on time of not less than 10 percent of the flash cycle. The light beam projected upon a surface perpendicular to the axis of the light beam shall produce a lighted rectangular projection whose minimum horizontal dimension shall be 5 degrees each side of the horizontal axis. The effective intensity shall not have an initial value greater than 15.0 candelas or drop below 4.0 candelas during the first 336 hours of continuous flashing. The illuminated lens shall appear to be uniformly bright over its entire illuminated surface when viewed from any point within an angle of 9 degrees each side of the vertical axis and 5 degrees each side of the horizontal axis. The lens shall not be less than 175 mm [7 in] in diameter including a reflex-reflector ring of 13 mm [½ in] minimum width around the periphery. The lens shall be yellow in color and have a minimum relative luminous transmittance of 0.440 with a luminance of 2854° Kelvin. The lens shall be one-piece construction. The lens material shall be plastic and meet the luminous transmission requirements of this specification. The case containing the batteries and circuitry shall be constructed of a material capable of withstanding abuse equal to or greater than 1.21 mm thick steel [No. 18 U.S. Standard Gage Steel]. The housing and the lens frame, if of metal shall be properly cleaned, degreased and pretreated to promote adhesion. It shall be given one or more coats of enamel which, when dry shall completely obscure the metal. The enamel coating shall be of such quality that when the coated case is struck a light blow with a sharp tool, the paint will not chip or crack and if scratched with a knife will not powder. The case shall be so constructed and closed as to exclude moisture that would affect the proper operation of light. The case shall have a weep hole to allow the escape of moisture from condensation. Photoelectric controls, if provided, shall keep the light operating whenever the ambient light falls below 215 lx [20 foot candles]. Each light shall be plainly marked as to the manufacturer's name and model number.

If required by the Resident, certification as to conformance to these specifications shall be furnished based on results of tests made by an independent testing laboratory. All lights are subject to random inspection and testing. All necessary random samples shall be provided to the Resident upon request without cost to the Department. All such samples shall be returned to the Contractor upon completion of the tests.

712.32 Copper Tubing Copper tubing and fittings shall conform to the requirements of ASTM B88M Type A [ASTM B88, Type K] or better.

712.33 Non-metallic Pipe, Flexible Non-metallic pipe and pipe fittings shall be acceptable flexible pipe manufactured from virgin polyethylene polymer suitable for transmitting liquids intended for human or animal consumption.

712.34 Non-metallic Pipe, Rigid Non-metallic pipe shall be Schedule 40 polyvinylchloride (PVC) that meets the requirement of ASTM D1785. Fittings shall be of the same material.

712.341 Metallic Pipe Metallic pipe shall be ANSI, Standard B36.10, Schedule 40 steel pipe conforming to the requirements of ASTM A53 Types E or S, Grade B. End plates shall be steel conforming to ASTM A36/A36M.

Both the sleeve and end plates shall be hot dip galvanized. Pipe sleeve splices shall be welded splices with full penetration weld before galvanizing.

712.35 Epoxy Resin Epoxy resin for grouting or sealing shall consist of a mineral filled thixotropic, flexible epoxy resin having a pot life of approximately one hour at 10°C [50°F]. The grout shall be an approved product suitable for cementing steel dowels into the preformed holes of curb inlets and adjacent curbing. The sealant shall be an approved product, light gray in color and suitable for coating the surface.

712.36 Bituminous Curb The asphalt cement for bituminous curb shall be of the grade required for the wearing course, or shall be Viscosity Grade AC-20 meeting the current requirements of Subsection 702.01 Asphalt Cement. The aggregate shall conform to the requirements of Subsection 703.07. The coarse aggregate portion retained on the 2.36 mm [No. 8] sieve may be either crushed rock or crushed gravel.

The mineral constituents of the bituminous mixture shall be sized and graded and combined in a composite blend that will produce a stable durable curbing with an acceptable texture.

Bituminous material for curb shall meet the requirements of Section 403 - Hot Bituminous Pavement.

712.37 Precast Concrete Slab Portland cement concrete for precast slabs shall meet the requirements of Section 502 - Structural Concrete, Class A.

The slabs shall be precast to the dimension shown on the plans and cross section and in accordance with the Standard Detail plans for Concrete Sidewalk Slab. The surface shall be finished with a float finish in accordance with Subsection 502.14(c). Lift devices of sufficient strength to hold the slab while suspended from cables shall be cast into the top or back of the slab.

712.38 Stone Slab Stone slabs shall be of granite from an acceptable source, hard, durable, predominantly gray in color, free from seams which impair the structural integrity and be of smooth splitting character. Natural color variations characteristic of the deposit will be permitted. Exposed surfaces shall be free from drill holes or indications of drill holes. The granite slabs in any one section of backslope must be all the same finish.

The granite slabs shall be scabble dressed or sawed to an approximately true plane having no projections or depressions over 13 mm [ $\frac{1}{2}$  in] under a 600 mm [2 ft] straightedge or over 25 mm [1 in] under a 1200 mm [4 ft] straightedge. The arris at the intersection of the top surface and exposed front face shall be pitched so that the arris line is uniform throughout the length of the installed slabs. The sides shall be square to the exposed face unless the slabs are to be set on a radius or other special condition which requires that the joints be cut to fit, but in any case shall be so finished that when the stones are placed side by side no space more than 20 mm [ $\frac{3}{4}$  in] shall show in the joint for the full exposed height.

Liftpin holes in all sides will be allowed except on the exposed face.

#### SPECIAL PROVISION SECTION 717 ROADSIDE IMPROVEMENT MATERIAL

717.05 Mulch Binder. Change the third sentence to read as follows:

“Paper fiber mulch may be used as a binder at the rate of 2.3 kg/unit [5 lb/unit].”

Pin 010402.00  
Jackman  
April 8, 2004

**SPECIAL PROVISION**

**SECTION 102.3**

**Examination of Documents, Site, and Other Information**

**All contractors will coordinate with the Town of Jackman to access the site on April 21, 2004, between the hours of 8:00 a.m. and 5:00 p.m. Coordination will be with Kathleen MacKenzie, Town Manager. The town office telephone number is 207-668-2111.**

Pin 010402.00  
Jackman  
April 8, 2004

## **SPECIAL PROVISION**

### **SECTION 103 Award and Contracting**

#### **103.4 Notice of Award**

Change the first sentence to read as follows: The Department must seek approval of the bids and a construction grant award from the Federal Aviation Administration (FAA) prior to issuing a Notice of Intent to Award. Due to this requirement, the Department has 60 days following the Bid Opening to issue a written Notice of Intent to Award and request a payment bond, performance bond, insurance bond, special certifications, and other information from the Apparent Low Bidder.

Pin 010402.00  
Jackman  
April 8, 2004

**SPECIAL PROVISION**

**SECTION 104**  
**General Rights and Responsibilities**

**104.4.11 Coordination with Airport**

All work shall be closely coordinated with the Town of Jackman . The airport shall be closed during the construction process and the contractor is responsible for closing the airport per FAA guidelines and requirements.

Pin 010402.00  
Jackman  
April 8, 2004

**SPECIAL PROVISION**

**SECTION 107  
TIME  
(Contract Time)**

All work shall be completed by November 30, 2004, which is the specified completion date for this contract.

PIN 010402.00  
Jackman  
April 8, 2004

**SPECIAL PROVISIONS**

**SECTION 107.9**

**TIME**

(Project Closeout)

The following is in addition to the requirements of Section 107.9.

The Contractor shall maintain, at the site, a set of Drawings, on which shall be recorded accurately as the work progresses, the actual dimensions and grades of all his work, indicating thereon all variations from the Contract Drawings. The record shall include the work of all Subcontractors. Record drawings shall be reviewed by the Resident, and the Contractor shall make all necessary changes according to the Resident's review.

Prior to final acceptance of the Work, all recorded data shall be transferred by the Contractor, to a complete set of reproducible record drawings, in ink or photolitho reproductions of the original of the Contract Drawings showing "As-Built" conditions. Reproductions shall be 3 mil mylar, single matted, as approved by the Department.



## **REQUIRED FEDERAL REGULATIONS FOR ALL AIP-FUNDED CONSTRUCTION CONTRACTS**

Buy American Preference – Title 49 U.S.C., Chapter 501  
Civil Rights Act of 1964, Title VI – Contractor Contractual Requirements – 49 CFR Part 21  
Airport and Airway Improvement Act of 1982, Section 520 – Title 49 U.S.C. 47123  
Lobbying and Influencing Federal Employees – 49 CFR Part 20  
Access to Records and Reports – 49 CFR part 18.36  
Disadvantaged Business Enterprise – 49 CFR part 26  
Energy Conservation – 49 CFR part 18.36  
Breach of Contract Terms – 49 CFR part 18.36  
Rights to Inventions – 49 CFR part 18.36  
Trade Restriction Clause – 49 CFR part 30  
Veteran's Preference – Title 49 USC 47112  
David Bacon Labor Provisions  
Equal Opportunity Clause – 41 CFR part 60-1.4  
Certification of Non-Segregated Facilities – 41 CFR part 60-1.8  
Notice of Requirement for Affirmative Action – 41 CFR part 60-4.2  
Equal Employment Opportunity Specification – 41 CFR part 60-4.3  
Termination of Contract – 49 CFR part 18.36  
Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – 49 CFR part 29  
Contract Work Hours and Safety Standards Act Requirements – 29 CFR part 5  
Clean Air and Water Pollution Control – 49 CFR part 18.36

**BUY AMERICAN - STEEL AND MANUFACTURED  
PRODUCTS FOR CONSTRUCTION CONTRACTS (JAN 1991)**

- (a) The Aviation Safety and Capacity Expansion Act of 1990 provides that preference be given to steel and manufactured products produced in the United States when funds are expended pursuant to a grant issued under the Airport Improvements Program. The following terms apply:
- (1) Steel and manufactured products. As used in this clause, steel and manufactured products include (1) steel produced in the United States or (2) a manufactured product produced in the United States, if the cost of its components mined, produced or manufactured in the United States exceeds 60 percent of the cost of all its components and final assembly has taken place in the United States. Components of foreign origin of the same class or kind as the products referred to in subparagraphs (b)(1) or (2) shall be treated as domestic.
  - (2) Components. As used in this clause, components means those articles, materials, and supplies incorporated directly into steel and manufactured products.
  - (3) Cost of Components. This means the costs for production of the components, exclusive of final assembly labor costs.
- (b) The successful bidder will be required to assure that only domestic steel and manufactured products will be used by the Contractor, subcontractors, materialmen, and suppliers in the performance of this contract, except those -
- (1) that the U.S. Department of Transportation has determined, under the Aviation Safety and Capacity Expansion Act of 1990, are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality;
  - (2) that the U.S. Department of Transportation has determined, under the Aviation Safety and Capacity Expansion Act of 1990, that domestic preference would be inconsistent with the public interest; or
  - (3) that inclusion of domestic material will increase the cost of the overall project contract by more than 25 percent.

(End of Clause)

## BUY AMERICAN CERTIFICATE (JAN 1991)

By submitting a bid/proposal under this solicitation, except for those items listed by the offeror below or on a separate and clearly identified attachment to this bid/proposal, the offeror certifies that steel and each manufactured product, is produced in the United States (as defined in the clause Buy American - Steel and Manufactured Products or Buy American - Steel and Manufactured Products or Buy American - Steel and Manufactured Products For Construction Contracts) and that components of unknown origin are considered to have been produced or manufactured outside the United States.

PRODUCT

COUNTRY OF ORIGIN


Certified by: \_\_\_\_\_  
(typed name and title)

Date: \_\_\_\_\_

TO BE INCLUDED IN SOLICITATIONS

**CIVIL RIGHTS ACT OF 1964,  
TITLE VI – CONTRACTOR CONTRACTUAL REQUIREMENTS**

During the performance of this contract, the contractor, for itself, its assignees and successors in interest (hereinafter referred to as the “contractor”) agrees as follows:

**1.1 Compliance with Regulations.** The contractor shall comply with the Regulations relative to nondiscrimination in federally assisted programs of the Department of Transportation (hereinafter, “DOT”) Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time (hereinafter referred to as “the Regulations”), which are herein incorporated by reference and made a part of this contract.

**1.2 Nondiscrimination.** The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

**1.3 Solicitations for Subcontracts, Including Procurements of Materials and Equipment.** In all solicitations either by competitive bidding or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.

**1.4 Information and Reports.** The contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Sponsor or the Federal Aviation Administration (FAA) to be pertinent to ascertain compliance with such Regulations, orders, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information, the contractor shall so certify to the sponsor or the FAA, as appropriate, and shall set forth what efforts it has made to obtain the information.

**1.5 Sanctions for Noncompliance.** In the event of the contractor's noncompliance with the nondiscrimination provisions of this contract, the sponsor shall impose such contract sanctions as it or the FAA may determine to be appropriate, including, but not limited to:

- a. Withholding of payments to the contractor under the contract until the contractor complies, and/or
- b. Cancellation, termination, or suspension of the contract, in whole or in part.

**1.6 Incorporation of Provisions.** The contractor shall include the provisions of paragraphs 1 through 5 in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations or directives issued pursuant thereto. The contractor shall take such action with respect to any subcontract or procurement as the sponsor or the FAA may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the contractor may request the Sponsor to enter into such litigation to protect the interests of the sponsor and, in addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

## **AIRPORT AND AIRWAY IMPROVEMENT ACT OF 1982, SECTION 520 – GENERAL CIVIL RIGHTS PROVISIONS**

The contractor assures that it will comply with pertinent statutes, Executive orders and such rules as are promulgated to assure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or handicap be excluded from participating in any activity conducted with or benefiting from Federal assistance. This provision obligates the tenant/concessionaire/lessee or its transferee for the period during which Federal assistance is extended to the airport a program, except where Federal assistance is to provide, or is in the form of personal property or real property or interest therein or structures or improvements thereon. In these cases the provision obligates the party or any transferee for the longer of the following periods: (a) the period during which the property is used by the airport sponsor or any transferee for a purpose for which Federal assistance is extended, or for another purpose involving the provision of similar services or benefits or (b) the period during which the airport sponsor or any transferee retains ownership or possession of the property. In the case of contractors, this provision binds the contractors from the bid solicitation period through the completion of the contract. This provision is in addition to that required of Title VI of the Civil Rights Act of 1964.

### **LOBBYING AND INFLUENCING FEDERAL EMPLOYEES**

- (1) No Federal appropriated funds shall be paid, by or on behalf of the contractor, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the making of any Federal grant and the amendment or modification of any Federal grant.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any Federal grant, the contractor shall complete and submit Standard Form-LLL, "Disclosure of Lobby Activities," in accordance with its instructions.

### **ACCESS TO RECORDS AND REPORTS**

The Contractor shall maintain an acceptable cost accounting system. The Contractor agrees to provide the Sponsor, the Federal Aviation Administration and the Comptroller General of the United States or any of their duly authorized representatives access to any books, documents, papers, and records of the contractor which are directly pertinent to the specific contract for the purpose of making audit, examination, excerpts and transcriptions. The Contractor agrees to maintain all books, records and reports required under this contract for a period of not less than three years after final payment is made and all pending matters are closed.

### **DISADVANTAGED BUSINESS ENTERPRISES**

**Contract Assurance (§26.13)** - The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy, as the recipient deems appropriate.

The Disadvantaged Business Enterprise Program for Bangor International Airport is available for inspection by prospective bidders at the Office of the Purchasing Agent, City Hall, 73 Harlow Street, Bangor, Maine.

## REQUIRED ASSURANCE TO BE INCLUDED IN ALL PROGRAMS

The DBE goal established for this project requires that a minimum of 2.55% of the dollar value of the contract be subcontracted to small business concerns owned and controlled by socially and economically disadvantaged individuals (DBE).

This firm assures that it will utilize no less than \_\_\_\_\_% DBE participation.

### CERTIFICATION OF BIDDER for the above:

Bidder's Name \_\_\_\_\_

Address \_\_\_\_\_

I.R.S. Number \_\_\_\_\_

If the apparent successful competitor does not meet the goal, it shall submit a statement showing that a good faith effort was made by the competitor to meet the goal.

***Note: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001***

TO BE INCLUDED IN ALL SOLICITATIONS
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## **ENERGY CONSERVATION REQUIREMENTS**

The contractor agrees to comply with mandatory standards and policies relating to energy efficiency that are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Public Law 94-163).

## **BREACH OF CONTRACT TERMS**

Any violation or breach of terms of this contract on the part of the contractor or their subcontractors may result in the suspension or termination of this contract or such other action that may be necessary to enforce the rights of the parties of this agreement. The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.

## **RIGHTS TO INVENTIONS**

All rights to inventions and materials generated under this contract are subject to regulations issued by the FAA and the Sponsor of the Federal grant under which this contract is executed.

## **TRADE RESTRICTION CLAUSE**

The contractor or subcontractor, by submission of an offer and/or execution of a contract, certifies that it:

- a. is not owned or controlled by one or more citizens of a foreign country included in the list of countries that discriminate against U.S. firms published by the Office of the United States Trade Representative (USTR);
- b. has not knowingly entered into any contract or subcontract for this project with a person that is a citizen or national of a foreign country on said list, or is owned or controlled directly or indirectly by one or more citizens or nationals of a foreign country on said list;
- c. has not procured any product nor subcontracted for the supply of any product for use on the project that is produced in a foreign country on said list.

Unless the restrictions of this clause are waived by the Secretary of Transportation in accordance with 49 CFR 30.17, no contract shall be awarded to a contractor or subcontractor who is unable to certify to the above. If the contractor knowingly procures or subcontracts for the supply of any product or service of a foreign country on said list for use on the project, the Federal Aviation Administration may direct through the Sponsor cancellation of the contract at no cost to the Government.

Further, the contractor agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in each contract and in all lower tier subcontracts. The contractor may rely on the certification of a prospective subcontractor unless it has knowledge that the certification is erroneous.

The contractor shall provide immediate written notice to the sponsor if the contractor learns that its certification or that of a subcontractor was erroneous when submitted or has become erroneous by reason of changed circumstances. The subcontractor agrees to provide written notice to the contractor if at any time it learns that its certification was erroneous by reason of changed circumstances.

This certification is a material representation of fact upon which reliance was placed when making the award. If it is later determined that the contractor or subcontractor knowingly rendered an erroneous certification, the Federal Aviation Administration may direct through the Sponsor cancellation of the contract or subcontract for default at no cost to the Government.

Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by this provision. The knowledge and information of a contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

This certification concerns a matter within the jurisdiction of an agency of the United States of America and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code, Section 1001.

### **VETERAN'S PREFERENCE**

In the employment of labor (except in executive, administrative, and supervisory positions), preference shall be given to Veterans of the Vietnam era and disabled veterans as defined in Section 515(c)(1) and (2) of the Airport and Airway Improvement Act of 1982. However, this preference shall apply only where the individuals are available and qualified to perform the work to which the employment relates.

### **DAVIS BACON REQUIREMENTS**

#### **1. Minimum Wages**

- (i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalent thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR Part 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under (1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can easily be seen by the workers.



(ii) (A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii) (B) or (C) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

## 2. Withholding.

The Federal Aviation Administration or the Sponsor shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the

same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of work, all or part of the wages required by the contract, the Federal Aviation Administration may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual costs incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii) (A) The contractor shall submit weekly, for each week in which any contract work is performed, a copy of all payrolls to the applicant, sponsor, or owner, as the case may be, for transmission to the Federal Aviation Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under paragraph 5.5(a)(3)(i) above. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal Stock Number 029-005-00014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

- (1) That the payroll for the payroll period contains the information required to be maintained under paragraph (3)(i) above and that such information is correct and complete;
- (2) That each laborer and mechanic (including each helper, apprentice and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations 29 CFR Part 3;
- (3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (3)(i) of this section available for inspection, copying or transcription by authorized representatives of the Sponsor, the Federal Aviation Administration or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the contractor, sponsor, applicant or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

#### 4. Apprentices and Trainees.

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the

U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal Employment Opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

5. Compliance With Copeland Act Requirements.

The contractor shall comply with the requirements of 29 CFR Part 3, which are incorporated by reference in this contract.

6. Subcontracts.

The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR Part 5.5(a)(1) through (10) and such other clauses as the Federal Aviation Administration may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR Part 5.5.

7. Contract Termination: Debarment.

A breach of the contract clauses in paragraph 1 through 10 of this section may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance With Davis-Bacon and Related Act Requirements.

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes Concerning Labor Standards.

Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6 and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of Eligibility.

- (i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
- (ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
- (iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

**EQUAL EMPLOYMENT OPPORTUNITY - 41 CFR PART 60-1.4(b)**

During the performance of this contract, the contractor agrees as follows:

1. The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
2. The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, or national origin.
3. The contractor will send to each labor union or representative of workers with which s/he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, as amended, and of the rules, regulations, and relevant orders of the Secretary of Labor.
5. The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
6. In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedure authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
7. The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of

September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provision, including sanctions for noncompliance: Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the contractor may request the United States to enter into such litigation to protect the interests of the United

## **CERTIFICATION OF NONSEGREGATED FACILITIES - 41 CFR PART 60-1.8**

### ***Notice to Prospective Federally Assisted Construction Contractors***

1. A Certification of Non-segregated Facilities shall be submitted prior to the award of a federally-assisted construction contract exceeding \$10,000 which is not exempt from the provisions of the Equal Opportunity Clause.
2. Contractors receiving federally-assisted construction contract awards exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity Clause will be required to provide for the forwarding of the following notice to prospective subcontractors for supplies and construction contracts where the subcontracts exceed \$10,000 and are not exempt from the provisions of the Equal Opportunity Clause.

*NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.*

### ***Notice to Prospective Subcontractors of Requirements for Certification of Non-Segregated Facilities***

1. A Certification of Non-segregated Facilities shall be submitted prior to the award of a subcontract exceeding \$10,000, which is not exempt from the provisions of the Equal Opportunity Clause.
2. Contractors receiving subcontract awards exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity Clause will be required to provide for the forwarding of this notice to prospective subcontractors for supplies and construction contracts where the subcontracts exceed \$10,000 and are not exempt from the provisions of the Equal Opportunity Clause. NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001

## **CERTIFICATION OF NONSEGREGATED FACILITIES**

The federally-assisted construction contractor certifies that she or he does not maintain or provide, for his employees, any segregated facilities at any of his establishments and that she or he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally-assisted construction contractor certifies that she or he will not maintain or provide, for his employees, segregated facilities at any of his establishments and that she or he will not permit his employees to perform their services at any location under his control where segregated facilities are maintained. The federally-assisted construction contractor agrees that a breach of this certification is a violation of the Equal Opportunity Clause in this contract.

As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms, and washrooms, restaurants and other eating areas, timeclocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directives or are, in fact, segregated on the basis of race, color, religion, or national origin because of habit, local custom, or any other reason. The federally-assisted construction contractor agrees that (except where she or he has obtained identical certifications from proposed subcontractors for specific time periods) she or he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity Clause and that she or he will retain such certifications in his files.

**REQUIREMENT FOR CERTIFICATION FOR NONSEGREGATED FACILITIES:**

A certification of Nonsegregated Facilities must be submitted at the time of the bid opening of a contract or subcontract exceeding \$10,000 which is not exempt from the provisions of the equal opportunity clause.

Certification - The information above is true and complete to the best of my knowledge and belief.

\_\_\_\_\_  
Name and Title of Signer (Please type)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

***Note: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.***

TO BE INCLUDED IN ALL SOLICITATIONS



## **NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION - 41 CFR PART 60-2**

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

### **Timetables**

Goals for minority participation for each trade (Vol. 45 Federal Register pg. 65984 10/3/80)

Goals for female participation in each trade (6.9%)

These goals are applicable to all the contractor's construction work (whether or not it is Federal or federally-assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its Federally involved and non-federally involved construction.

The contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training shall be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from contractor to contractor or from project to project, for the sole purpose of meeting the contractor's goals, shall be a violation of the contract, the Executive Order, and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The contractor shall provide written notification to the Director, OFCCP, within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of subcontract; and the geographical area in which the subcontract is to be performed.
4. As used in this notice and in the contract resulting from this solicitation, the "covered area" is the City of Rochester, New Hampshire, in Strafford County.

## **STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS - 41 CFR Part 60.4.3**

1. As used in these specifications:
  - a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
  - b. "Director" means Director, Office of Federal Contract Compliance Programs (OFCCP), U.S. Department of Labor, or any person to whom the Director delegates authority;

- c. "Employer identification number" means the Federal social security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941;
- d. "Minority" includes:
- (1) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
  - (2) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin regardless of race);
  - (3) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
  - (4) American Indian or Alaskan native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
  3. If the contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors shall be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each contractor or subcontractor participating in an approved plan is individually required to comply with its obligations under the EEO clause and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other contractors or subcontractors toward a goal in an approved Plan does not excuse any covered contractor's or subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
  4. The contractor shall implement the specific affirmative action standards provided in paragraphs 7.a. through 7.p. of this section. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in a geographical area where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.
  5. Neither the provisions of any collective bargaining agreement nor the failure by a union with whom the contractor has a collective bargaining agreement to refer either minorities or women shall excuse the contractor's obligations under these specifications, Executive Order 11246 or the regulations promulgated pursuant thereto.
  6. In order for the non-working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees shall be employed by the contractor during the training period and the contractor shall have made a commitment to employ the apprentices and trainees at the completion of their

training, subject to the availability of employment opportunities. Trainees shall be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The contractor shall document these efforts fully and shall implement affirmative action steps at least as extensive as the following:
  - a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the contractor's employees are assigned to work. The contractor, where possible, will assign two or more women to each construction project. The contractor shall specifically ensure that all foremen, superintendents, and other onsite supervisory personnel are aware of and carry out the contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
  - b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
  - c. Maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source, or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the contractor by the union or, if referred, not employed by the contractor, this shall be documented in the file with the reason therefore along with whatever additional actions the contractor may have taken.
  - d. Provide immediate written notification to the Director when the union or unions with which the contractor has a collective bargaining agreement has not referred to the contractor a minority person or female sent by the contractor, or when the contractor has other information that the union referral process has impeded the contractor's efforts to meet its obligations.
  - e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the contractor's employment needs, especially those programs funded or approved by the Department of Labor. The contractor shall provide notice of these programs to the sources compiled under 7b above.
  - f. Disseminate the contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
  - g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with onsite supervisory personnel such as superintendents, general foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

- h. Disseminate the contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the contractor's EEO policy with other contractors and subcontractors with whom the contractor does or anticipates doing business.
  - i. Direct its recruitment efforts, both oral and written, to minority, female, and community organizations, to schools with minority and female students; and to minority and female recruitment and training organizations serving the contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the contractor shall send written notification to organizations, such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
  - j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable provide after school, summer, and vacation employment to minority and female youth both on the site and in other areas of a contractor's workforce.
  - k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
  - l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel, for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
  - m. Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the contractor's obligations under these specifications are being carried out.
  - n. Ensure that all facilities and company activities are non-segregated except that separate or single user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
  - o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
  - p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations, which assist in fulfilling one or more of their affirmative action obligations (18.7a through 18.7p). The efforts of a contractor association, joint contractor union, contractor community, or other similar groups of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 18.7a through 18.7p of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the contractor. The obligation to comply, however, is the contractor's and failure of such a group to fulfill an obligation shall not be a defense for the contractor's noncompliance.
9. A single goal for minorities and a separate single goal for women have been established. The contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, if

the particular group is employed in a substantially disparate manner (for example, even though the contractor has achieved its goals for women generally,) the contractor may be in violation of the Executive Order if a specific minority group of women is underutilized.

10. The contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.
11. The contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
12. The contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination, and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13. The contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7. of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.
14. The contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government, and to keep records. Records shall at least include for each employee, the name, address, telephone number, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.
15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

## BIDDER'S CERTIFICATION

- A. Section 60-1.7(b) of the Regulations of the Secretary of Labor requires each bidder or prospective prime contractor and proposed subcontractor, where appropriate, to state in the bid whether it has participated in any previous contract or subcontract subject to the equal opportunity clause; and if so, whether it has filed with the Joint Reporting Committee, the Director, an agency, or the former President's Committee on Equal Employment Opportunity all reports due under the applicable filing requirements. In any case in which a bidder or prospective prime contractor or proposed subcontractor has participated in a previous contract subject to executive Orders 10925, 11114, or 11246 (Fed. Reg. 12319-25, as amended) and has not filed a report due under the applicable filing requirements, no contract or subcontract shall be awarded unless such contractor submits a report covering the delinquent period or such other period specified by the FAA or the Director, OFCC.
- B. To effectuate these requirements, the Bidder shall complete and sign the following statement by checking the appropriate spaces.

The Bidder ( has / has not ) participated in a previous contract subject to the equal opportunity clause prescribed by Executive Order 10925, or Executive Order 11246, or Executive Order 11114.

The Bidder ( has / has not ) submitted all compliance reports in connection with any such contract due under the applicable filing requirements; and that representation indicating submission of required compliance reports signed by proposed subcontractors will be obtained prior to award of subcontract.

If the Bidder has participated in a previous contract subject to the equal opportunity clause and has not submitted compliance reports due under applicable filing requirements, the bidder shall submit a compliance report on Standard Form 100, "Employee Information Report EEO-I" within seven calendar days after Bid opening.

The Bidder ( has / has not ) been considered for sanction due to violation of Executive Order 11246, as amended.

\_\_\_\_\_  
(signature)

\_\_\_\_\_  
(date)

\_\_\_\_\_  
(typed name and title)

TO BE INCLUDED IN ALL SOLICITATIONS
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## **TERMINATION OF CONTRACT**

1. The Sponsor may, by written notice, terminate this contract in whole or in part at any time, either for the Sponsor's convenience or because of failure to fulfill the contract obligations. Upon receipt of such notice services shall be immediately discontinued (unless the notice directs otherwise) and all materials as may have been accumulated in performing this contract, whether completed or in progress, delivered to the Sponsor.
2. If the termination is for the convenience of the Sponsor, an equitable adjustment in the contract price shall be made, but no amount shall be allowed for anticipated profit on unperformed services.
3. If the termination is due to failure to fulfill the contractor's obligations, the Sponsor may take over the work and prosecute the same to completion by contract or otherwise. In such case, the contractor shall be liable to the Sponsor for any additional cost occasioned to the Sponsor thereby.
4. If, after notice of termination for failure to fulfill contract obligations, it is determined that the contractor had not so failed, the termination shall be deemed to have been effected for the convenience of the Sponsor. In such event, adjustment in the contract price shall be made as provided in paragraph 2 of this clause.
5. The rights and remedies of the sponsor provided in this clause are in addition to any other rights and remedies provided by law or under this contract.

## **CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION**

The bidder/offeror certifies, by submission of this proposal or acceptance of this contract, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency. It further agrees by submitting this proposal that it will include this clause without modification in all lower tier transactions, solicitations, proposals, contracts, and subcontracts. Where the bidder/offeror/contractor or any lower tier participant is unable to certify to this statement, it shall attach an explanation to this solicitation/proposal.

## **CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS 29 CFR PART 5**

1. Overtime Requirements.

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic, including watchmen and guards, in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; Liability for Unpaid Wages; Liquidated Damages.

In the event of any violation of the clause set forth in paragraph (1) above, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District

of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph 1 above, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1 above.

3. Withholding for Unpaid Wages and Liquidated Damages.

The Federal Aviation Administration or the Sponsor shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any monies payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 2 above.

4. Subcontractors.

The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs 1 through 4 and also a clause requiring the subcontractor to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1 through 4 of this section.

## **CLEAN AIR AND WATER POLLUTION CONTROL**

Contractors and subcontractors agree:

1. That any facility to be used in the performance of the contract or subcontract or to benefit from the contract is not listed on the Environmental Protection Agency (EPA) List of Violating Facilities;
2. To comply with all the requirements of Section 114 of the Clean Air Act, as amended, 42 U.S.C. 1857 et seq. and Section 308 of the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq. relating to inspection, monitoring, entry, reports, and information, as well as all other requirements specified in Section 114 and Section 308 of the Acts, respectively, and all other regulations and guidelines issued thereunder;
3. That, as a condition for the award of this contract, the contractor or subcontractor will notify the awarding official of the receipt of any communication from the EPA indicating that a facility to be used for the performance of or benefit from the contract is under consideration to be listed on the EPA List of Violating Facilities;
4. To include or cause to be included in any construction contract or subcontract which exceeds \$100,000 the aforementioned criteria and requirements.



SPECIAL PROVISION SECTION 113  
CONTRACT ARTICLES

Add to Division 100 – General Conditions, the following section entitled, Contract Articles (sections 10 through 110)

The following sections contain information and requirements that are required for Federal Aviation Administration (FAA) funded projects. The Contractor's attention is directed to Division 100 – General Conditions (Section 101 through 112) and to this Special Provision Section 113. Division 100 (101-112) and Contract Articles (section 113) contain wording that is similar in nature; however there may be discrepancies and conflicting wording. Should a discrepancy or conflicting wording exist it is the intent that the more stringent wording shall govern.

CONTRACT ARTICLES

SECTION 10

DEFINITION OF TERMS

Whenever the following terms are used in these specifications, in the contract, in any documents or other instruments pertaining to construction where these specifications govern, the intent and meaning shall be interpreted as follows:

10-01 AASHTO. The American Association of State Highway and Transportation Officials, the successor association to AASHO.

10-02 ACCESS ROAD. The right-of-way, the roadway and all improvements constructed thereon connecting the airport to a public highway.

10-03 ADVERTISEMENT. A public announcement, as required by local law, inviting bids for work to be performed and materials to be furnished.

10-04 AIP. The Airport Improvement Program, a grant-in-aid program, administered by the Federal Aviation Administration.

10-05 AIR OPERATIONS AREA. For the purpose of these specifications, the term air operations area shall mean any area of the airport used or intended to be used for the landing, takeoff, or surface maneuvering of aircraft. An air operation area shall include such paved or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runway, taxiway, or apron.

10-06 AIRPORT. Airport means an area of land or water which is used or intended to be used for the landing and takeoff of aircraft, and includes its buildings and facilities, if any.

10-07 ALTERATION. Change in the form or character of the work done or to be done.

10-08 ASTM. The American Society for Testing and Materials.

10-09 AWARD. The acceptance, by the Owner, of the successful bidder's proposal.

10-10 AWARDING AUTHORITY. The person or group authorized by the Owner to award the Contract.

10-11 BIDDER. Any individual, partnership, firm, or corporation, acting directly or through a duly authorized representative, who submits a proposal for the work contemplated.

10-12 BUILDING AREA. An area on the airport to be used, considered, or intended to be used for airport buildings or other airport facilities or rights-of-way together with all airport buildings and facilities located thereon.

10-13 CALENDAR DAY. Every day shown on the calendar.

10-14 CHANGE ORDER. A written order to the Contractor covering changes in the plans, specifications, or proposal quantities and establishing the basis of payment and contract time adjustment, if any, for the work affected by such changes. The work, covered by a change order, shall be within the scope of the contract.

10-15 CONTRACT. The written agreement executed between the Owner and the successful bidder, covering the performance of the Work. the Contract shall include Notice to Contractors, Instructions to Bidders, the Proposal, the Proposal Guaranty, the executed agreement, the Contract Bond, the Payment Bond, these Specifications including these Contract Articles, the General and Technical Specifications, Construction Details and Addenda (if any), the Plans and the Notice to proceed. The Contract also shall include any Extra Work Orders, mutual understandings, and agreements that are required to complete the Work, and authorized alterations or extensions thereof.

10-16 CONTRACT DOCUMENTS. Those documents herein before defined as included in the Contract.

10-17 CONTRACT ITEM (PAY ITEM). A specific unit of work for which a price is provided in the contract.

10-18 CONTRACT TIME. The number of calendar days or working days, stated in the proposal, allowed for completion of the contract, including authorized time extensions. If a calendar date of completion is stated in the proposal, in lieu of a number of calendar or working days, the contract shall be completed by that date.

10-19 CONTRACTOR. The individual, partnership, firm, or corporation undertaking the execution of the work under the terms of the Contract and primarily liable for the acceptable performance of the work contracted and for the payment of all legal debts pertaining to the work who acts directly or through lawful agents or employees to complete the contract work.

10-20 DRAINAGE SYSTEM. The system of pipes, ditches, and structures by which surface or subsurface waters are collected and conducted from the airport area.

10-21 EMERGENCY. A temporary unforeseen occurrence or combination of circumstances which endangers life or property and calls for immediate action or remedy by either the Contractor or the Engineer.

10-22 ENGINEER. The individual, partnership, firm, or corporation duly authorized by the Owner (sponsor) to be responsible for engineering supervision of the contract work and acting directly or through an authorized representative, with such representative acting within the scope of the particular duties entrusted to them.

The Consulting Engineer shall have the right to inspect the Work and to consult with and advise the Owner concerning the Work.

10-23 EQUIPMENT. All machinery, together with the necessary supplies for upkeep and maintenance, and also all tools and apparatus necessary for the proper construction and acceptable completion of the work.

10-24 EXTRA WORK. An item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, but which is found by the Engineer to be necessary to complete the work within the intended scope of the contract as previously modified.

The term "extra work" shall mean work or materials required by the Owner which are in addition to those required by the Contract Drawings and Specifications in their present form.

10-25 FAA. The Federal Aviation Administration of the U.S. Department of Transportation. When used to designate a person, FAA shall mean the Administrator or his/her duly authorized representative.

10-26 FEDERAL SPECIFICATIONS. The Federal Specifications and Standards, and supplements, amendments, and indices thereto are prepared and issued by the General Services Administration of the Federal Government.

10-27 GENERAL SPECIFICATIONS. The special directions, provisions, and requirements prepared to cover proposed Work not satisfactorily provided for elsewhere. These General Specifications shall be included within the general term "Specifications" and shall be made a part of the Contract with the express purpose that they shall prevail over all other Specifications.

10-28 INSPECTOR. An authorized representative of the Engineer assigned to make all necessary inspections and/or tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor.

10-29 INTENTION OF TERMS. Whenever, in these specifications or on the plans, the words "directed", "required", "permitted", "ordered", "designated", "prescribed", or words of the like import are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the Engineer is intended; and similarly, the words "approved", "acceptable", "satisfactory" or words of like import, shall mean approved by, or acceptable to, or satisfactory to the Engineer, subject in each case to the final determination of the Owner.

Any reference to a specific requirement of a numbered paragraph of the contract specifications or a cited standard shall be interpreted to include all general requirements of the entire section, specification item, or cited standard that may be pertinent to such specific reference.

10-30 LABORATORY. The official testing laboratories of the Owner or such other laboratories as may be designated by the Engineer.

10-31 LIGHTING. A system of fixtures providing or controlling the light sources used on or near the airport or within the airport buildings. The field lighting includes all luminous signals, markers, floodlights, and illuminating devices used on or near the airport or to aid in the operation of aircraft landing at, taking off from, or taxiing on the airport surface.

10-32 LOCATION. The area which has been designated for the Work. It is synonymous with the term "site".

10-33 MAJOR AND MINOR CONTRACT ITEMS. A major contract item shall be any item that is listed in the proposal, the total cost of which is equal to or greater than 20 percent of the total amount of the award contract. All other items shall be considered minor contract items.

10-34 MATERIALS. Any substance specified for use in the construction of the contract work.

10-35 NOTICE. The term “notice” shall mean and include written notice. Written notice shall be deemed to have been duly served when delivered to or at the last known business address of the person, firm, or corporation for whom intended or to his/her, their, or its duly authorized agent, representative, or officer; or when enclosed in a postage prepaid wrapper, or envelopes, addressed to such person, firm or corporation at his/her, their, or its last known business address and deposited in a United States mail box.

10-36 NOTICE OF AWARD. A written notice to the successful bidder stating that his bid has been accepted and that, in accordance with the terms of the notice and the specifications, he is required to execute the contract and furnish satisfactory contract bond.

10-37 NOTICE TO PROCEED. A written notice to the Contractor to begin the actual contract work on a previously agreed to date. If applicable, the Notice to Proceed shall state the date on which the contract time begins.

10-38 OTHERS. Other Contractors, this Contractor under another contract agreement, organizations not connected with this Contractor which are performing functions in relation to this project, or personnel retained by the Owner.

10-39 OWNER (SPONSOR). The term Owner shall mean the party of the first part or the contracting agency signatory to the contract. For AIP contracts, the term sponsor shall have the same meaning as the term Owner.

10-40 OWNER’S REPRESENTATIVE. Whosoever the Owner may designate as his representative at the site of the contract work. This may include the Engineer.

10-41 PAVEMENT. The combined surface course, base course, and subbase course, if any, considered as a single unit.

10-42 PAYMENT BOND. The approved form of security furnished by the Contractor and his/her surety as a guaranty that he will pay in full all bills and accounts for materials and labor used in the construction of the work.

10-43 PERFORMANCE BOND. The approved form of security furnished by the Contractor and his/her surety as a guaranty that the Contractor will complete the work in accordance with the terms of the contract.

10-44 PLANS AND/OR DRAWINGS. The contract drawings, standard drawings and detail sheets, or exact reproductions thereof, which show the location, character, dimension, and details of the Work including any alterations thereof permissible under the Contract and authorized by duly approved written orders.

10-45 PROJECT. The agreed scope of work for accomplishing specific airport development with respect to a particular airport.

10-46 PROPOSAL. The written offer of the bidder (when submitted on the approved proposal form) to perform the contemplated work and furnish the necessary materials in accordance with the provisions of the plans and specifications.

10-47 PROPOSAL GUARANTY. The security furnished with a proposal to guarantee that the bidder will enter into a contract and will execute the required bonds covering the Work contemplated, if his/her proposal is accepted by the Owner.

10-48 RIGHT-OF-WAY. All lands or other property interests provided or acquired for the development and operation of an airport and its appurtenances.

10-49 RUNWAY. The area on the airport prepared for the landing and takeoff of aircraft.

10-50 SPECIFICATIONS. A part of the contract containing the written directions and requirements for completing the contract work. Standards for specifying materials or testing which are cited in the contract specifications by reference shall have the same force and effect as if included in the contract physically.

10-51 STRUCTURES. Airport facilities such as bridges; culverts; catch basins, inlets, retaining walls, cribbing; storm and sanitary sewer lines; water lines; underdrains; electrical ducts, manholes, handholes, lighting fixtures and bases; transformers; flexible and rigid pavements; navigational aids; buildings; vaults; and, other manmade features of the airport that may be encountered in the work and not otherwise classified herein.

10-52 SUBCONTRACTOR. A person, firm or corporation supplying labor and materials or only labor for work at the site of the project for, and under separate contract or agreement with, the Contractor.

10-53 SUBGRADE. The soil which forms the pavement foundation.

10-54 SUPERINTENDENT. The Contractor's executive representative who is present on the work during progress, authorized to receive and fulfill instructions from the Engineer, and who shall supervise and direct the construction.

10-55 SUPPLEMENTAL AGREEMENT. A written agreement between the Contractor and the Owner covering: (1) work that would increase or decrease the total amount of the awarded contract, or any major contract item, by more than 25 percent, such increased or decreased work being within the scope of the originally awarded contract; or (2) work that is not within the scope of the originally awarded contract.

10-56 SURETY. The corporation, partnership, or individual, other than the Contractor, executing payment or performance bonds which are furnished to the Owner by the Contractor.

10-57 TAXIWAY. For the purpose of this document, the term taxiway means the portion of the air operations area of an airport that has been designated by competent airport authority for movement of aircraft to and from the airport's runways or aircraft parking areas.

10-58 WORK. The furnishing of all labor, materials, tools, equipment, and incidentals necessary or convenient to the Contractor's performance of all duties and obligations imposed by the contract, plans, and specifications. "Work required by the Contract Drawings and Specifications in their present form" or "materials required by the Contract Drawings and Specifications in their present form" or words of similar import shall include all work or materials mentioned in the Specifications in their present form (whether or not shown upon the Contract Drawings), all work or materials shown upon the Contract Drawings in their present form (whether or not mentioned in the Specifications) and all work or materials involved in or incidental to the accomplishment of the results intended by the Specifications and Contract Drawings in their present form (whether or not mentioned therein or shown thereon).

10-59 WORKING DAY. A working day shall be any day other than a legal holiday, Saturday, or Sunday on which the normal working forces of the Contractor may proceed with regular work for at least 6 hours toward completion of the contract. Unless work is suspended for causes beyond the Contractor's control, Saturdays,

Newton Field – Jackman, Maine

Reconstruct Runway 14-32

PIN #010402.00

CA-5

Sundays and holidays on which the Contractor's forces engage in regular work, requiring the presence of an inspector, will be considered as working days.

**END OF SECTION 10**

## SECTION 20

### PROPOSAL REQUIREMENTS AND CONDITIONS

#### 20-01 ADVERTISEMENT (Notice to Bidders).

Not used.

**20-02 PREQUALIFICATION OF BIDDERS.** Each bidder shall furnish the Owner satisfactory evidence of his/her competency to perform the proposed work. Such evidence of competency, unless otherwise specified, shall consist of statements covering the bidder's past experience on similar work, a list of equipment that would be available for the work, and a list of key personnel that would be available. In addition, each bidder shall furnish the Owner satisfactory evidence of his/her financial responsibility. Such evidence of financial responsibility, unless otherwise specified, shall consist of a confidential statement or report of the bidder's financial resources and liabilities as of the last calendar year or the Contractor's last fiscal year. Such statements or reports shall be certified by a public accountant. At the time of submitting such financial statements or reports, the bidder shall further certify whether his/her financial responsibility is approximately the same as stated or reported by the public accountant. If the bidder's financial responsibility has changed, the bidder shall qualify the public accountant's statement or report to reflect his/her (bidder's) true financial condition at the time such qualified statement or report is submitted to the Owner.

Unless otherwise specified, a bidder may submit evidence that he is prequalified with the State Highway Division and is on the current bidder's list of the state in which the proposed work is located. Such evidence of State Highway Division prequalification may be submitted as evidence of financial responsibility in lieu of the certified statements or reports hereinbefore specified.

Each bidder shall submit "evidence of competency and evidence of financial responsibility to the Owner no later than 10 days prior to the specified date for opening bids.

**20-03 CONTENTS OF PROPOSAL FORMS.** The Owner shall furnish bidders with proposal forms. All papers bound with or attached to the proposal forms are necessary parts and must not be detached.

The plans specifications, and other documents designated in the proposal form shall be considered a part of the proposal whether attached or not.

**20-04 ISSUANCE OF PROPOSAL FORMS.** The Owner reserves the right to refuse to issue a proposal form to a prospective bidder should such bidder be in default for any of the following reasons:

- a. Failure to comply with any prequalification regulations of the Owner, if such regulations are cited, or otherwise included, in the proposal as a requirement for bidding.
- b. Failure to pay, or satisfactorily settle, all bills due for labor and materials on former contracts in force (with the Owner) at the time the Owner issues the proposal to a prospective bidder.
- c. Contractor default under previous contracts with the Owner.
- d. Unsatisfactory work on previous contracts with the Owner.

**20-05 INTERPRETATION OF ESTIMATED PROPOSAL QUANTITIES.** An estimate of quantities of work to be done and materials to be furnished under these specifications is given in the proposal. It is the result of careful calculations and is believed to be correct. It is given only as a basis for comparison of proposals and

the award of the contract. The Owner does not expressly or by implication agree that the actual quantities involved will correspond exactly therewith; nor shall the bidder plead misunderstanding or deception because of such estimates of quantities, or of the character, location, or other conditions pertaining to the work. Payment to the Contractor will be made only for the actual quantities of work performed or materials furnished in accordance with the plans and specifications. It is understood that the quantities may be increased or decreased as hereinafter provided in the subsection titled ALTERATION OF WORK AND QUANTITIES of Section 40 without in any way invalidating the unit bid prices or be regarded as cause for an increase or decrease in the time allowed for the completion of the Work, except as provided in the Contract.

In the event that any part of the Work has been divided into classes or items on a unit price basis and there is an increase or decrease in the quantity of any such class or item of work, the actual quantity executed will be paid for at the price bid for that particular class or item of work.

If the Work is let on the basis of a lump sum contract or if the Work includes lump sum items, the Bidder must obtain and be responsible for the data upon which s/he bases his/her bid. S/He shall not be entitled to any additional compensation in case the quantities of work actually done to fulfill the Contract and complete the Work be different from his/her estimated quantities.

20-06 EXAMINATION OF PLANS, SPECIFICATIONS, AND SITE. Statements as to the condition under which the Work is to be performed, including Plans, surveys, measurements, dimensions, calculations, estimates, borings, etc., are made solely to furnish a basis for comparison of bids, and the Owner does not guarantee or represent that they are correct. The bidder is expected to carefully examine the site of the proposed work, the proposal, plans specifications, and contract forms. He shall satisfy himself as to the character, quality, and quantities of work to be performed, materials to be furnished, and as to the requirements of the proposed contract and may at his own risk and expense undertake his own subsurface investigation as may be required to satisfy himself as to the actual conditions. The submission of a proposal shall be prima facie evidence that the bidder has made such examination and is satisfied as to the conditions to be encountered in performing the work and as to the requirements of the proposed contract, plans, and specifications.

By execution of this Contract, the Contractor warrants that he has satisfied himself as to the nature and location of the work, the general and local conditions, particularly those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electric power, roads and uncertainties of weather, physical conditions at the site, the conformation and condition of the ground, the character, quality and quantity of surface and subsurface materials to be encountered, the character of equipment and facilities needed preliminary to and during the prosecution of the work and all other matters which can in any way affect the work or the cost thereof under this Contract. Any failure by the Contractor to acquaint himself with all the available information concerning these conditions will not relieve him from responsibility for estimating properly the difficulty or cost of successfully performing the work. The Owner assumes no responsibility for any understanding or representations made by any of its officers or agents during or prior to the negotiation and execution of this Contract, unless (1) such understanding or representations are expressly stated in the Contract and (2) the Contract expressly provides that responsibility therefor is assumed by the Owner. Representations made but not expressly stated and for which liability is not expressly assumed by the Owner in the Contract shall be deemed only for the information of the Contract and the Owner will not be liable or responsible therefor.

The Contractor further warrants that by executing this Contract, his failure, when he was bidding on this Contract, to receive or examine any form, instrument, or document, or to visit the site and acquaint himself with conditions there existing, does not relieve him from any obligation under the Contract and the Contractor agrees that the Owner shall be justified in rejecting any claim or extra costs based on facts of which he should have been aware as a result thereof.



If any person, firm, or corporation contemplating the submission of a proposal for this Contract is in doubt as to the true meaning of any part of the Plans, Specifications, or other Contract Documents, s/he may submit to the Engineer a written request for an authorized and legal interpretation thereof, provided such request is delivered to the Engineer not later than seven (7) days before the advertised date for the opening of bids. The person, firm, or corporation submitting the request shall be responsible for its prompt and safe delivery. Such interpretations will be made by addenda duly issued and signed by an authorized representative of the Owner. A copy of such addenda will be sent by registered or certified mail, return receipt requested, or will be delivered to each person securing a set of the Contract Documents at the address he registers at the Engineer's or Owner's office upon his receipt of the Contract Plans and Specifications. The Owner will not be responsible for any other explanations or interpretations of the Contract Documents. No employee or agent of the Owner or the Engineer shall have the authority to furnish any such other explanation or interpretation, verbal or written.

Boring logs and other records of subsurface investigations and tests, if available, will be accessible for inspection of bidders. It is understood and agreed that such subsurface information, whether included in the plans, specifications, or otherwise made available to the bidder, was obtained and is intended for the Owner's design and estimating purposes only. Such information has been made available for the convenience of all bidders. It is further understood and agreed that each bidder is solely responsible for all assumptions, deductions, or conclusions which he may make or obtain from his/her examination of the boring logs and other records of subsurface investigations and tests that are furnished by the Owner.

**20-07 PREPARATION OF PROPOSAL.** The bidder shall submit his/her proposal on the forms furnished by the Owner. All blank spaces in the proposal forms must be correctly filled in where indicated for each and every item for which a quantity is given. The bidder shall state the price (written in ink or typed) both in words and numerals for which he proposes to do each pay item furnished in the proposal. In case of conflict between words and numerals, the words, unless obviously incorrect, shall govern.

When an item in the proposal contains a choice to be made by the Bidder, the Bidder shall indicate his/her choice in accordance with the Specifications for that particular item, and thereafter no further choice will be permitted.

The price for any item bid and/or contracted for, unless otherwise noted or specified, shall include full compensation for all materials, equipment tools, labor, and incidental work necessary to complete the item to the satisfaction of the Engineer. The prices shall, without exception, include all royalties and costs arising from patents, trademarks, and copyrights in any way involved in the Work.

The bidder shall sign his/her proposal correctly and in ink. If the proposal is made by an individual, his/her name and post office address must be shown. If made by a partnership, the name and post office address of each member of the partnership must be shown. If made by a corporation, the person signing the proposal shall give the name of the state under the laws of which the corporation was chartered and the name, titles, and business address of the president, secretary, and the treasurer. Anyone signing a proposal as an agent shall file evidence of his/her authority to do so and that the signature is binding upon the firm or corporation.

If the proposal is made as a joint venture by a combination of any individual, firm, partnership, or corporation, it shall be signed by a person having such legal authority from the said individuals, firms, partnerships, or corporations and the person so signing the proposal shall give his/her own name and title (if any), in addition to the names and addresses of the individuals, firms, partnerships, or corporations.

**20-08 IRREGULAR PROPOSALS.** Proposals shall be considered irregular for the following reasons:

- a. If the proposal is on a form other than that furnished by the Owner, or if the Owner's form is altered, or if any part of the proposal form is detached.
- b. If there are unauthorized additions, conditional or alternate pay items, or irregularities of any kind which make the proposal incomplete, indefinite, or otherwise ambiguous.
- c. If the proposal does not contain a unit price for each pay item listed in the proposal, except in the case of authorized alternate pay items, for which the bidder is not required to furnish a unit price.
- d. If the proposal contains unit prices that are obviously unbalanced.
- e. If the proposal is not accompanied by the proposal guaranty specified by the Owner.

The Owner reserves the right to reject any irregular proposal and the right to waive technicalities if such waiver is in the best interest of the Owner and conforms to local laws and ordinances pertaining to the letting of construction contracts.

**20-09 BID GUARANTEE.** Each separate proposal shall be accompanied by a certified check, or other specified acceptable collateral, in the amount specified in the proposal form. Such check, or collateral, shall be made payable to the Owner.

**20-10 DELIVERY OF PROPOSAL.** Each proposal submitted shall be placed in a sealed envelope plainly marked with the project number, location of airport, and name and business address of the bidder on the outside. When sent by mail, preferably registered, the sealed proposal, marked as indicated above, should be enclosed in an additional envelope. No proposal will be considered unless received at the place specified in the advertisement before the time specified for opening all bids. Proposals received after the bid opening time shall be returned to the bidder unopened.

**20-11 WITHDRAWAL OR REVISION OF PROPOSALS.** A bidder may withdraw or revise (by withdrawal of one proposal and submission of another) a proposal provided that the bidder's request for withdrawal is received by the Owner in writing or by telegram before the time specified for opening bids. Revised proposals must be received at the place specified in the advertisement before the time specified for opening all bids. Withdrawn proposals will be returned to the Bidder unopened.

**20-12 PUBLIC OPENING OF PROPOSALS.** Proposals shall be opened, and read, publicly at the time and place specified in the advertisement. Bidders, their authorized agents, and other interested persons are invited to attend. Proposals that have been withdrawn (by written or telegraphic request) or received after the time specified for opening bids shall be returned to the bidder unopened.

**20-13 DISQUALIFICATION OF BIDDERS.** A bidder shall be considered disqualified for any of the following reasons:

- a. Submitting more than one proposal from the same partnership, firm, or corporation under the same or different name. Reasonable proof for believing that any Bidder is so interested in more than one Proposal for the Work contemplated will cause the rejection of all proposals made by him/her directly or indirectly.
- b. Evidence of collusion among bidders. Bidders participating in such collusion shall be disqualified as bidders for any future work of the Owner until any such participating bidder has been reinstated by the Owner as a qualified bidder.

- c. If the bidder is considered to be in default for any reason specified in the subsection titled ISSUANCE OF PROPOSAL FORMS of this section.
- d. Unbalanced proposals in which the prices for some items are out of proportion to the prices for the other items.
- e. Failure to submit a unit price for each item of work for which a bid price is required by the proposal.
- f. Lack of competency as revealed by the financial statement, experience, or plant and equipment statements submitted.
- g. Lack of responsibility as shown by past work judged from the standpoint of workmanship and progress.
- h. Uncompleted work which, in the judgement of the Owner, might hinder or prevent the prompt completion of additional work if awarded.
- i. If the proposal is considered irregular in accordance with the subsection entitled IRREGULAR PROPOSALS of this section.

**END OF SECTION 20**

## **SECTION 30**

### **AWARD AND EXECUTION OF CONTRACT**

**30-01 CONSIDERATION OF PROPOSALS.** After the proposals are publicly opened and read, they will be compared on the basis of the summation of the products obtained by multiplying the estimated quantities shown in the proposal by the unit bid prices. If a bidder's proposal contains a discrepancy between unit bid prices written in words and unit bid prices written in numbers, the unit price written in words shall govern.

No contract will be awarded except to responsible and eligible Bidders capable of performing the class of work contemplated. Before the award of the Contract, any Bidder may be required by the Owner or the Engineer to submit information in writing, in such form as they may require, showing that s/he has the skill, ability and integrity necessary to the faithful performance of the Work, and that s/he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the Work.

Until the award of a contract is made, the Owner reserves the right to reject a bidder's proposal for any of the following reasons:

- a. If the proposal is irregular as specified in the subsection titled **IRREGULAR PROPOSALS** of Section 20.
- b. If the bidder is disqualified for any of the reasons specified in the subsection titled **DISQUALIFICATION OF BIDDERS** of Section 20.

In addition, until the award of a contract is made, the Owner reserves the right to reject any or all proposals, waive technicalities, if such waiver is in the best interest of the Owner and is in conformance with applicable state and local laws or regulations pertaining to the letting of construction contracts; advertise for new proposals; or proceed with the work otherwise. All such actions shall promote the Owner's best interests.

**30-02 AWARD OF CONTRACT.** The award of a contract, if it is to be awarded, shall be made within 30 calendar days of the date specified for publicly opening proposals, unless otherwise specified herein.

Before any contract is awarded, the Bidder may be required to furnish, without expense to the Owner, a complete statement of the origin, composition, and manufacture of any or all materials proposed to be used in the construction of the Work, together with samples, which samples may be subjected to the tests required by the Owner, or his representative, to determine their quality and fitness for the Work.

Award of the contract shall be made by the Owner to the lowest, qualified bidder whose proposal conforms to the cited requirements of the Owner.

No award shall be made until the FAA has concurred in the sponsor's recommendation to make such award and has approved the sponsor's proposed contract to the extent that such concurrence and approval are required by Part 152 of the Federal Aviation Regulations.

**30-03 CANCELLATION OF AWARD.** The Owner reserves the right to cancel the award without liability to the bidder, except return of proposal guaranty, at any time before a contract has been fully executed by all parties and is approved by the Owner in accordance with the subsection titled **APPROVAL OF CONTRACT** of this section.

30-04 RETURN OF PROPOSAL GUARANTY. All proposal guaranties, except those of the two lowest bidders, will be returned immediately after the Owner has made a comparison of bids as hereinbefore specified in the subsection titled CONSIDERATION OF PROPOSALS of this section. Proposal guaranties of the two lowest bidders will be retained by the Owner until such time as an award is made, at which time, the unsuccessful bidder's proposal guaranty will be returned. The successful bidder's proposal guaranty will be returned as soon as the Owner receives the contracts bonds as specified in the subsection titled REQUIREMENTS OF CONTRACT BONDS of this section.

30-05 REQUIREMENTS OF CONTRACT BONDS. At the time of the execution of the contract, the successful bidder shall furnish the Owner a surety bond or bonds which have been fully executed by the bidder and the surety guaranteeing the performance of the work and the payment of all legal debts that may be incurred by reason of the Contractor's performance of the work. The surety and the form of the bond or bonds shall be acceptable to the Owner. The Contractor shall furnish a performance bond in an amount at least equal to one hundred percent (100%) of the contract prices as security for the faithful performance of this Contract and also a payment (labor and materials) bond in an amount equal to one hundred percent (100%) of the contract price as security for the payment of all persons performing labor on the project under this Contract and furnishing materials in connection with this Contract. The labor and materials bond and the payment bond shall be completed on the forms provided.

If at any time the Owner, for justifiable cause, shall be or become dissatisfied with the surety or sureties for the Performance and/or Payment Bonds, the Contractor shall within five (5) days after notice from the Owner to do so, substitute an acceptable bond (or bonds) in such form and sum and signed by such other surety or sureties as may be satisfactory to the Owner. The premiums on such bond shall be paid by the Contractor. No further payments shall be deemed due nor shall be made until the new surety or sureties shall have furnished such an acceptable bond to the Owner.

30-06 EXECUTION OF CONTRACT. The successful bidder shall sign (execute) the necessary agreements for entering into the contract and return such signed contract to the Owner, along with the fully executed surety bond or bonds specified in the subsection titled REQUIREMENTS OF CONTRACT BONDS of this section, within 15 calendar days from the date mailed or otherwise delivered to the successful bidder. If the contract is mailed, special handling is recommended.

30-07 APPROVAL OF CONTRACT. Upon receipt of the contract and contract bond or bonds that have been executed by the successful bidder, the Owner shall complete the execution of the contract in accordance with local laws or ordinances, and return the fully executed contract to the Contractor. Delivery of the fully executed contract to the Contractor shall constitute the Owner's approval to be bound by the successful bidder's proposal and the terms of the contract.

30-08 FAILURE TO EXECUTE CONTRACT. Failure of the successful bidder to execute the contract and furnish an acceptable surety bond or bonds within the 15 calendar day period specified in the subsection titled REQUIREMENTS OF CONTRACT BONDS of this section shall be just cause for cancellation of the award and forfeiture of the proposal guaranty, not as a penalty, but as liquidation of damages to the Owner, for the delay and expense caused by the abandonment of the Contract.

Award may then be made to the next lowest Bidder, or the Work readvertised, or the Owner may proceed in any lawful manner to secure the accomplishment of the Work.

30-09 CONTRACTOR. Only one (1) Contractor is recognized as a party to the Contract, and where the term "Contractor" is used, the prime Contractor who signed this Contract is referred to. Should the prime Contractor elect to subcontract any portion of the project, it shall in no way relieve him of any responsibility

to the Owner for the correctness and satisfactory completion of any work so sub-contracted, nor shall it in any way be an indication of any contractual relationship between the Owner and any such Subcontractors.

30-10 ASSIGNMENTS. The Contractor shall not assign the whole or any part of this Contract or any monies due or to become due hereunder without written consent of the Owner, but this shall not prohibit the assignment of the proceeds due hereunder to a bank or financial institution nor shall this provision preclude the Contractor from subletting, as provided in the Contract, parts of the work in accordance with the general practice of the construction industry. In case the Contractor assigns all or any part of any monies due or to become due under this Contract, the instrument of assignment shall contain a clause substantially to the effect that it agrees that the right of the assignee in and to any monies due or to become due to the Contractor shall be subject to prior claims of all persons, firms, and corporations for services rendered or materials supplied for the performance of the work called for in this Contract.

The consent to any assignment or transfer shall not operate to relieve the Contractor or his sureties of any of his or its obligations under this Contract or the Performance and Payment Bond. Nothing herein contained shall be construed to hinder or affect an assignment of monies due or to become due hereunder made for the benefit of the Contractor's creditors pursuant to law.

#### 30-11 DISPUTES.

- a. All disputes arising under this Contract or its interpretations, whether involving law or fact or both, or extra work, and all claims for alleged breach of contract, shall within ten (10) days of commencement of dispute be presented to the Owner for decision. Such notice need not detail the amount of the claim, but shall state the facts surrounding the claim in sufficient detail to identify the claim, together with its character and scope. The Contractor shall proceed with the work as directed. The parties agree that any claim not presented within the time limit specified within this sub-section is waived, except that if the claim is of a continuing character, notice of the claim will be considered only for a period commencing ten (10) days prior to the receipt by the Owner of written notice thereof.
- b. The Contractor shall submit in detail his claim and his proof thereof. Each decision by the Owner shall be in writing and shall be mailed to the Contractor by certified mail, return receipt requested.
- c. If the Contractor does not agree with any decision of the Owner he may appeal in writing declaring his reasons for disagreement. The Owner shall then render a final and conclusive decision.
- d. The Contractor shall not take any advantage, or make and claim for damages on account of any omission, discrepancy, or error in any surveys, borings, estimates, schedules, specifications, drawings, or other data or documents furnished him but shall report same to the Owner as soon as it comes to his knowledge.
  - 1) Deviations from the Contract Drawings and the dimensions thereon given, whether or not error is believed to exist, shall be made only after written authority is obtained from the Owner's Engineer.
  - 2) All questions regarding the figures, drawings and specifications and the interpretation thereof, and the resolving of conflicts and inconsistencies therein shall be determined in the first instance, by the Owner's Engineer, and such determination shall be final, subject only to appeal under the provisions of this Article.
- e. No oral statement of any person whomsoever shall in any manner or degree modify or otherwise affect the terms of this Contract.

**30-12 CONTRACTORS' AND SUBCONTRACTORS' INSURANCE.** The Contractor shall not commence work under this Contract until he has obtained all the insurance required under this paragraph and such insurance has been approved by the Owner, nor shall the Contractor allow any Subcontractor to commence work on his subcontract until the insurance required of the Subcontractor has been so obtained and approved.

- a. **Compensation Insurance.** The Contractor shall procure and shall maintain during the life of this contract Workmen's Compensation Insurance as required by applicable State law, and the furnishing of other benefits for all of his employees to be engaged in work at the site of the project under this Contract, and, in case of any such work sublet, the Contractor shall require the Subcontractor similarly to provide workmen's Compensation Insurance for all of the latter's employees to be engaged in such work unless such employees are covered by the protection afforded by the Contractor's Workmen's Compensation Insurance. In case any class of employees engaged in hazardous work on the project under this Contract is not protected under the Workmen's Compensation Statute, the Contractor shall provide and shall cause each Subcontractor to provide adequate employer's liability insurance for the protection of such of his employees as are not otherwise protected.
- b. **Contractor's Public Liability and Property Damage Insurance and Vehicle Liability Insurance.** The Contractor shall procure and shall maintain during the life of this Contract Contractor's Public Liability Insurance, Contractor's Property Damage Insurance and Vehicle Liability Insurance of the types and in the amounts as specified in the General Specifications.
- c. **Subcontractor's Public Liability and Property Damage Insurance and Vehicle Liability Insurance.** The Contractor shall either (1) require each of his Subcontractors to procure and to maintain during the life of his subcontract, Subcontractor's Public Liability and Property Damage Insurance and Vehicle Liability Insurance of the type and in the amounts specified in subparagraph b. hereof, or (2) insure the activities of his Subcontractors in his policy, specified in subparagraph b. hereof.
- d. **Proof of Carriage of Insurance.** The Contractor shall attach a copy of the Insurance Certificate to the back of this document showing the type, amount, class of operations covered, effective dates and dates of expiration of policies. No cancellation of such insurance, whether by the insurer or by the insured, shall be valid unless written notice thereof is given by the party proposing cancellation to the other party and to the officer or agent who awarded the Contract at least fifteen days prior to the intended effective date thereof, which date shall be expressed in said notice. Notice of cancellation sent by the party proposing cancellation by certified mail, postage prepaid, with a return receipt of the addressee requested, shall be a sufficient notice. An affidavit of any officer, agent or employee of the insurer or of the insured, as the case may be, duly authorized for the purpose, that he has so sent such notice addressed as aforesaid shall be prima facie evidence of the sending thereof as aforesaid. This section shall apply to the legal representative, trustee in bankruptcy, receiver, assignee, trustee and the successor in interest of any such Contractor.

**30-13 COVENANTS AGAINST CONTINGENT FEES.** The Contractor warrants that it has not employed any person to solicit or secure this Contract upon any agreement for a commission, percentage, brokerage, or contingent fee. Breach of this warranty shall give the Owner the right to annul the Contract, or, in its discretion, to deduct from the contract price or consideration the amount of such commission, percentage, brokerage or contingent fee. This warranty shall not apply to commissions payable by the Contractor upon contracts or selling agencies maintained by the Contractor for the purpose of securing business.

**30-14 APPROVAL, REVIEW AND INSPECTION BY THE STATE AERONAUTICS COMMISSION AND THE FEDERAL AVIATION ADMINISTRATION.** The Contract shall be subject to the written approval of

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the State Aeronautics Commission and FAA to the Owner from the region wherein these public agencies are located and shall not be binding until so approved. The drawings and specifications upon which bids have hereby been invited are approved by said public agencies.

**END OF SECTION 30**



## SECTION 40

### SCOPE OF WORK

40-01 INTENT OF CONTRACT. The intent of the contract is to provide for construction and completion, in every detail, of the work described. It is further intended that the Contractor shall furnish all labor, materials, equipment, tools, transportation, and supplies required to complete the work in accordance with the plans, specifications, and terms of the contract.

The Contractor shall and will, in good workmanlike manner, do and perform all work and furnish all supplies and materials, machinery, equipment facilities and means, except as herein otherwise expressly specified, necessary or proper to perform and complete all the work required by this Contract, within the time herein specified, in accordance with the provisions of this Contract and said Specifications and in accordance with the plans and drawings covered by this Contract and any and all supplemental plans and drawings, and in accordance with the directions of the Owner as given from time-to-time during the progress of the work. He shall furnish, erect, maintain and remove such construction plant and such temporary works as may be required. The Contractor shall remove all obstructions from within the lines of the improvement; and shall do such additional, extra, and incidental work as may be considered necessary to complete the Work in a substantial and acceptable manner; and when it is so completed, s/he shall leave the Work in a neat and finished condition. The Contractor shall observe, comply with, and be subject to all terms, conditions, requirements, and limitations of the Contract and Specifications, and shall do, carry on, and complete the entire work to the satisfaction of the Owner, the Federal Aviation Administration and the State Aeronautics Commission.

It is understood that, except as otherwise specifically stated in the Contract, the Contractor shall provide and pay for all materials, labor, tools, equipment, water, light, power, transportation, taxes, superintendence, temporary construction of every nature, and all other services and facilities of every nature whatsoever necessary to execute, complete, and deliver the work within the specified time.

In the event that the Contractor discovers any apparent error or discrepancy in the Plans and Specifications, s/he shall call immediately upon the Engineer for his/her interpretation, and such interpretation or decision shall be final.

40-02 ALTERATION OF WORK AND QUANTITIES. The Owner reserves and shall have the right to make such alterations in the work as may be necessary or desirable to complete the work originally intended in an acceptable manner. Unless otherwise specified herein, the Engineer shall be and is hereby authorized to make such alterations in the work as may increase or decrease the originally awarded contract quantities, provided that the aggregate of such alterations does not change the total contract cost or the total cost of any major contract item by more than 25 percent (total cost being based on the unit prices and estimated quantities in the awarded contract). Alterations which do not exceed the 25 percent limitation shall not invalidate the contract nor release the surety, and the Contractor agrees to accept payment for such alterations as if the altered work had been a part of the original contract. These alterations which are for work within the general scope of the contract shall be covered by "Change Orders" issued by the Engineer. Change orders for altered work shall include extensions of contract time where, in the Engineer's opinion, such extensions are commensurate with the amount and difficulty of added work.

Should the aggregate amount of altered work exceed the 25 percent limitation hereinbefore specified, such excess altered work shall be covered by supplemental agreement. If the Owner and the Contractor are unable to agree on a unit adjustment for any contract item that requires a supplemental agreement, the Owner

reserves the right to terminate the contract with respect to the item and make other arrangements for its completion.

In the event that the quantity of any item of Work as so which a unit price (or prices) is applicable is increased or decreased by an alteration in the Work, the contractor shall perform such item of Work as altered at the Contract unit price or prices. Payment for any other alteration in the Work shall be made on a cost-plus or force account basis in accordance with the provisions of PAYMENT FOR EXTRA WORK. An appropriate credit or deduction shall be made with respect to any portion of the work which is no longer to be performed as a result of an alteration, deletion and/or omission. In the event that the alteration, deletion and/or omission shall diminish the cost of the Work, no allowance will be made for anticipated profits and a credit to the Owner shall be computed in the same manner as payment for extra work stated under PAYMENT FOR EXTRA WORK.

The Engineer may at any time in writing request the Contractor to submit to the Engineer a written proposal indicating the price at which the Contractor would be willing to perform certain alterations in the Work described by the Engineer in his/her request. Upon receipt of such a request, the Contractor shall prepare and submit such proposal as promptly as possible. Such written request by the Engineer shall not be considered a direction or order to perform alterations in the Work, it is a request for a proposal only. If the Contractor and the Owner agree in writing as to the price to be paid the Contractor for certain alternations in the Work; payment shall be made by the Owner in accordance with the provisions of said agreement.

In the case of any alterations in the work, so much of the Contract as is not necessarily affected by such alterations shall remain in force upon the parties thereto, and such alterations shall be made under the terms of and as part of the Contract, and the security for the performance of the Contract shall in no way be invalidated, but shall be held to secure in like manner the performance of the alterations made under the Contract and of any extra work done under the provisions of EXTRA WORK.

Should an alteration by the Owner result in a decrease in the amount of work to be performed under this Contract, a corresponding decrease in the time allotted for performance of the Contract will be made. If the Contractor and the Engineer are not able to agree upon such decrease, the Owner shall in the exercise of his/her independent judgement render a decision in writing as to the appropriate size of such decrease. This decision shall be final and conclusive.

The Contractor shall not start work on any alteration requiring a supplemental agreement until the agreement setting for the agreed price or prices shall be executed by the Owner and the Contractor. In the case where an alteration in the Work requires a supplemental agreement, but the Owner and the Contractor are not able to agree thereon, the Owner reserves the right to terminate the Contract as it applies to the items in question and make such arrangements as may be deemed necessary to complete the work.

If the Contractor, as a result of an order to perform alterations in the Work or an order requiring work which the Contractor considers to be alterations in the Work, has a claim for additional compensation or otherwise, s/he shall within forty-eight (48) hours after receipt of such an order submit a written notice of such claim to the Engineer.

Whenever an order to perform alterations in the Work has been issued, or whenever the Engineer shall direct, order or require work which the Contractor considers to be alterations and as to which s/he has a claim for additional compensation or otherwise, the contractor shall at the end of each day submit to the Engineer a daily summary and listings of the types described in EXTRA WORK in connection with extra work claims. Submission by the Contractor of the above notice of claim, daily summaries and listings, in the circumstances described above, shall be a condition precedent to allowance of a claim in the Work or an order requiring such work which the Contractor considers to be alterations in the Work.

At any time or times after the commencement of work by the Contractor pursuant to (1) a written order to perform alterations in the Work or (2) an order, direction or requirement of the Engineer as to which the Contractor has submitted a written notice of claim, as aforesaid, the Engineer may by written notice direct the Contractor to submit to the Engineer within such time as the Engineer shall specify in writing, (a) a written statement of the amount which the Contractor claims is at that time owing for said alterations or claimed alterations and (b) a breakdown or itemized summary showing in detail satisfactory to the Engineer how such amount was computed. If the Contractor and the Owner agree in writing as to an amount to be paid the contractor for such alterations or claimed alterations, payment shall be made by the Owner in accordance with the provisions of said agreement. If, within a reasonable time (to be determined by the Engineer) after the date the Contractor and the Owner have not so agreed in writing, the Engineer shall in the exercise of his/her independent judgement decide in writing what amount, if any, is owing to the Contractor. Copies of any such decision shall be sent to the Contractor and to the Owner.

The decision of the Engineer shall be final and conclusive with respect to all questions that may arise concerning the interpretation and application of the provisions of this Article, the amount of alterations in the work, and the value of alterations in the work; provided, however, that any dispute about revision (extension or contraction) of the Contract completion time due to an alteration in the Work shall be decided by the Owner in accordance with the provisions of EXTENSIONS OF TIME. Such decisions of the Engineer may be made by him after completion of the work required by the Contract but shall be made before payment of the final estimate by the Owner.

If the Contractor claims that the performance of certain alterations in the Work (or work which the Contractor claims to be alterations in the Work) will delay the contract completion time, s/he shall, as a condition precedent to the allowance of any such claim, comply with the provisions of EXTENSION OF TIME.

For AIP contracts, the Contractor is advised that all supplemental agreements shall be approved by the FAA and shall include valid wage determinations of the U.S. Secretary of Labor when the amount of the supplemental agreement exceeds \$2,000. However, if the Contractor elects to waive the limitations on work that increases or decreases the originally awarded contract or any major contract item by more than 25 percent, the supplemental agreement shall be subject to the same U.S. Secretary of Labor wage determination as was included in the originally awarded contract.

All supplemental agreements shall require consent of the Contractor's surety and separate performance and payment bonds.

40-03 OMITTED ITEMS. The Engineer may, in the Owner's best interest, omit from the work any contract item, except major contract items. Major contract items may be omitted by a supplemental agreement. Such omission of contract items shall not invalidate any other contract provision or requirement.

Should a contract item be omitted or otherwise ordered to be nonperformed, the Contractor shall be paid for all work performed toward completion of such item prior to the date of the order to omit such item. Payment for work performed shall be in accordance with the subsection titled PAYMENT FOR OMITTED ITEMS of Section 90.

40-04 EXTRA WORK. Should acceptable completion of the contract require the Contractor to perform an item of work for which no basis of payment has been provided in the original contract or previously issued change orders or supplemental agreements, the same shall be called Extra Work. Extra work that is within the general scope of the contract shall be covered by written change order. Change orders for such extra work shall contain agreed unit prices for performing the change order work in accordance with the requirements specified in the order, and shall contain any adjustment to the contract time that, in the Engineer's opinion, is necessary for completion of such extra work.

When determined by the Engineer to be in the Owner's best interest, he may order the Contractor to proceed with extra work by force account as provided in the subsection titled PAYMENT FOR EXTRA AND FORCE ACCOUNT WORK of Section 90.

Extra work that is necessary for acceptable completion of the project, but is not within the general scope of the work covered by the original contract shall be covered by a Supplemental Agreement as hereinbefore defined in the subsection titled SUPPLEMENTAL AGREEMENT of Section 10.

Any claim for payment of extra work that is not covered by written agreement (change order or supplemental agreement) shall be rejected by the Owner.

The Engineer may at any time in writing request the Contractor to submit to the Engineer a written proposal indicating the price at which the Contractor would be willing to perform certain extra work described by the Engineer in his/her request. Upon receipt of such a request, the Contractor shall prepare and submit such proposal as promptly as possible. Such written request by the Engineer shall not be considered a direction or order to perform extra work; it is a request for a proposal only.

If the Contractor and the Owner agree in writing as to the price to be paid the Contractor for certain extra work ("agreement for extra work"), payment shall be made by the Owner in accordance with the provisions of said agreement.

No extra work shall be performed except pursuant to such a written extra work order or such a written agreement for extra work.

In the absence of any such written extra work order or any such written agreement for extra work, as described above, if the Engineer shall direct, order or require any work which the Contractor claims to be extra, the Contractor shall nevertheless comply therewith, but shall within forty-eight (48) hours after receipt of such direction, order or requirement submit a written notice to the Engineer (1) describing the work the Contractor claims to be extra; and (2) stating why s/he claims it to be extra.

Whenever a written extra work order directing the performance of extra work has been issued, or whenever the Engineer shall direct, order or require any work which the Contractor claims to be extra, the Contractor shall at the end of each day submit to the Engineer the following:

- (1) a daily summary, in writing, on a form approved by the Owner, showing the name and number of each workman employed on such work, the number of hours which s/he is employed thereon, the character of his duties, and the wages to be paid to him.
- (2) a listing of the number and types of equipment used in the performance of such work, the hours each piece of equipment worked, the identification number of each piece of equipment, and the rental claimed therefor, and
- (3) a listing showing the amount and character of any extra materials furnished, from whom they were purchased, and the amount to be paid therefor.

The aforesaid requirements with respect to notice, the daily summary and listings are for the purpose of affording to the Engineer an opportunity to verify the Contractor's claim at the time, to cancel promptly (if he desires so to do) such order, direction or requirement, and to keep an accurate record of the materials, labor and other items involved, and generally of affording to the Owner an opportunity to take such action as it may deem desirable in light of the Contractor's claims. Accordingly, submission by the Contractor of such notices,

daily summaries and listings, in the circumstances described above, shall be a condition precedent to allowance of any claim by the Contractor for additional compensation due to extra work. The Engineer shall have no authority to modify or waive, expressly or by implication, the above requirements as to notice, daily summaries and listings, and any action or statements by the Engineer to such effect shall not be binding upon the Owner.

The keeping of costs by the Engineer shall not in any way be construed as proving the validity of the Contractor's claim.

At any time or times after the commencement of work by the Contractor pursuant to (1) a written extra work order of (2) an order, direction or requirement of the Engineer as to which the Contractor has submitted a written notice, as aforesaid, claiming the work to be extra, the Engineer may by written notice direct the Contractor to submit to the Engineer, within such time as the Engineer shall specify in writing (a) a written statement of the amount which the Contractor claims is at that time owing for said extra work or claimed extra work (said amount being computed on a cost-plus or force account basis in accordance with EXTRA WORK hereof) and (b) a breakdown or itemized summary showing in detail satisfactory to the Engineer how such amount was computed. If the Contractor and the Owner agree in writing as to an amount to be paid the Contractor for such extra work or claimed extra work, payment shall be made by the Owner in accordance with the provisions of said agreement. If, within a reasonable time (to be determined by the Engineer) after the date the Contractor submitted or should have submitted the aforesaid statement and breakdown, the Contractor and the Owner have not so agreed in writing, the Engineer shall in the exercise of his independent judgement, decide in writing: (1) with respect to work claimed by the Contractor to be extra, whether such work was or was not extra work; and (2) with respect to extra work, what amount is properly owing to the Contractor. Copies of any such decision shall be sent to the Contractor and to the Owner.

The decision of the Engineer shall be final and conclusive with respect to all questions as to what constitutes extra work, the amount of extra work, and the value of extra work. Such decisions may be made by the Engineer after completion of the work required by the Contract but shall be made before payment of the final estimate by the Owner.

If the Contractor claims that the performance of certain extra work (or work which the Contractor claims to be extra) will delay the contract completion time, s/he shall, as a condition precedent to the allowance of any such claim, comply with the provisions of EXTENSIONS OF TIME hereof.

**40-05 MAINTENANCE OF TRAFFIC.** It is the explicit intention of the contract that the safety of aircraft, as well as the Contractor's equipment and personnel, is the most important consideration. It is understood and agreed that the Contractor shall provide for the free and unobstructed movement of aircraft in the air operations areas of the airport with respect to his/her own operations and the operations of all his/her subcontractors as specified in the subsection titled LIMITATION OF OPERATIONS of Section 80. It is further understood and agreed that the Contractor shall provide for the uninterrupted operation of visual and electronic signals (including power supplies thereto) used in the guidance of aircraft while operating to, from, and upon the airport as specified in the subsection titled CONTRACTOR'S RESPONSIBILITY FOR UTILITY SERVICE AND FACILITIES OF OTHERS in Section 70.

With respect to his/her own operations and the operations of all his/her subcontractors, the Contractor shall provide marking, lighting, and other acceptable means of identifying: personnel; equipment; vehicles; storage areas; and any work area or condition that may be hazardous to the operation of aircraft, fire-rescue equipment, or maintenance vehicles at the airport.

When the contract requires the maintenance of vehicular traffic on an existing road, street, or highway during the Contractor's performance of work that is otherwise provided for in the contract, plans, and specifications,

the Contractor shall keep such road, street, or highway open to all traffic and shall provide such maintenance as may be required to accommodate traffic. The Contractor shall furnish erect, and maintain barricades, warning signs, flagmen, and other traffic control devices in reasonable conformity with the manual of Uniform Traffic Control Devices for Streets and Highways (published by the United States Government Printing Office), unless otherwise specified herein. The Contractor shall also construct and maintain in a safe condition any temporary connections necessary for ingress to and egress from abutting property or intersecting roads, streets or highways. Unless otherwise specified herein, the Contractor will not be required to furnish snow removal for such existing road, street, or highway.

During all working hours when construction or operations incidental thereto under this Contract are in progress in the immediate vicinity of the landing areas or active taxiways (as determined by the Engineer), the Contractor shall furnish monitor vehicles with two-way radio communication with the Airport Control Tower. Such radio communications shall be manned at all times by a qualified operator and shall be operated in conjunction with a loud speaker system, so that instructions from the Control Tower may be passed on immediately to all the Contractor's personnel and equipment. The number of radio monitor vehicles will depend on the number of control points necessitated (in the opinion of the Owner) by the access routes and construction procedures used by the Contractor. Radios, operators, vehicles, and communication procedure shall all be satisfactory to the Owner. The monitor vehicles and the two-way radio sets shall be continuously maintained in satisfactory operating condition by the Contractor.

The Contractor shall hold harmless the Owner, the Engineer, and their respective agents or representatives from any and all claims for damages, costs, expenses, judgements, or decrees resulting from negligence on the part of the Contractor and/or any Subcontractor, or his/her, their, or its agent or employees in conducting the Work as required by this Article.

The Contractor shall make his/her own estimate of all labor, materials, equipment, and incidentals necessary for providing the maintenance of aircraft and vehicular traffic as specified in this subsection.

The cost of maintaining the aircraft and vehicular traffic specified in this subsection shall not be measured or paid for directly, but shall be included in the various contract items.

The Contractor shall not close or obstruct any roads, streets, driveways, sidewalks, alleys, or passageways, unless and until he shall have first secured all necessary Municipal or other permits therefor. The Contractor shall make all necessary applications for securing any such required permits and shall obtain such permits before commencing work. The Contractor shall so conduct his operations as to interfere as little as possible with the use ordinarily made of any roads, taxiways, runways, streets, driveways, alleys, sidewalks, or other facilities near enough to be affected thereby.

When, in the opinion of the Engineer, it is necessary that uniformed police be used to protect and control pedestrian traffic, to direct vehicular traffic during construction and to keep the traffic off any part of the work, or to protect the public safety, s/he will obtain a police detail for this purpose.

All expenses for uniformed police shall be assumed by the Contractor, and included in the bid price or in the prices bid for the various items of work to be performed under this contract.

When any work is being done by the Contractor which may obstruct the tracks of the railroad or in any way endanger the running of trains, a flagman or flagmen, designated by the Chief Engineer of the railroad, shall be on duty for the protection of the property and traffic of the railroad.

The expenses for all flagging service which is required shall be assumed by the Contractor and included in the prices bid for the various items for work to be performed under this Contract.

Nothing contained herein shall be construed as relieving the Contractor of any of his responsibilities for the protection of persons and property as described in these specifications and the Contractor shall remain fully responsible at all times whether or not police protection has been provided.

**40-06 REMOVAL OF EXISTING STRUCTURES.** All existing structures encountered within the established lines, grades, or grading sections shall be removed by the Contractor, unless such existing structures are otherwise specified to be relocated, adjusted up or down, salvaged, abandoned in place, reused in the work or to remain in place. The cost of removing such existing structures shall not be measured or paid for directly, but shall be included in the various contract items.

Should the Contractor encounter an existing structure (above or below ground) in the work for which the disposition is not indicated on the plans, the Engineer shall be notified prior to disturbing such structure. The disposition of existing structures so encountered shall be immediately determined by the Engineer in accordance with the provisions of the contract.

Existing structures found within the location of the Work which are to be replaced or rendered useless by new construction shall be removed by the Contractor at his/her own expense whether or not indicated on the Plans as existing unless otherwise provided in the Plans and Specifications. When such structures are situated so as not to interfere with the Work, the removal shall not be undertaken until the new replacement structures are ready for use or until the Engineer shall permit.

All material in existing structures requiring removal shall be removed as directed by the Engineer. Unless otherwise provided, the material from any existing structures may be used temporarily by the Contractor during construction. All discarded material, rubbish, or debris shall be removed from the Work Area and Owner property and properly disposed of (according to all laws, ordinances, regulation, orders and decrees) at the Contractor's expense. No foreign material or debris shall be permitted to enter a waterway or drainage system.

Except as provided in the subsection titled RIGHTS IN AND USE OF MATERIALS FOUND IN THE WORK of this section, it is intended that all existing materials or structures that may be encountered (within the lines, grades, or grading sections established for completion of the work) shall be utilized in the work as otherwise provided for in the contract and shall remain the property of the Owner when so utilized in the work.

**40-07 RIGHTS IN AND USE OF MATERIALS FOUND IN THE WORK.** Should the Contractor encounter any material such as (but not restricted to) sand, stone, gravel, slag, or concrete slabs within the established lines, grades, or grading sections, the use of which is intended by the terms of the contract to be either embankment or waste, he may at his/her option either:

- a. Use such material in another contract item, providing such use is approved by the Engineer and is in conformance with the contract specifications applicable to such use; or,
- b. Remove such material from the site, upon written approval of the Engineer; or
- c. Use such material for his/her own temporary construction on site; or,
- d. Use such material as intended by the terms of the contract.

Should the Contractor wish to exercise option a., b., or c., he shall request the Engineer's approval in advance of such use.

Should the Engineer approve the Contractor's request to exercise option a., b., or c., the Contractor shall be paid for the excavation or removal of such material at the applicable contract price. The Contractor shall replace, at his/her own expense, such removed or excavated material with an agreed equal volume of material that is acceptable for use in constructing embankment, backfills, or otherwise to the extent that such replacement material is needed to complete the contract work. The Contractor shall not be charged for his/her use of such material so used in the work or removed from the site.

Should the Engineer approve the Contractor's exercise of option a., the Contractor shall be paid, at the applicable contract price, for furnishing and installing such material in accordance with requirements of the contract item in which the material is used.

It is understood and agreed that the Contractor shall make no claim for delays by reason of his/her exercise of option a., b., or c.

The Contractor shall not excavate, remove, or otherwise disturb any material, structure, or part of a structure which is located outside the lines, grades, or grading sections established for the work, except where such excavation or removal is provided for in the contract, plans, or specifications.

**40-09 USE OF PREMISES AND REMOVAL OF DEBRIS.** The Contractor expressly undertakes at his own expense:

- a. to take every precaution against injuries to person to damage to property;
- b. to store his apparatus, materials, supplies and equipment in such orderly fashion at the site of the work as will not unduly interfere with the progress of his work or the work of any other contractors;
- c. to place upon the work or any part thereof only such loads as are consistent with the **safety** of that portion of the work;
- d. to clean up frequently all refuse, rubbish, scrap materials, and debris caused by his operations, to the end that at all times the site of the work shall be safe and present a neat, orderly and workmanlike appearance;
- e. before final payment, to remove all surplus material, falsework, temporary structures, including foundations thereof, plant of any description and debris of every nature resulting from his operations, and to put the site in a neat, orderly, safe condition.

**40-10 FINAL CLEANING UP.** Upon completion of the work and before acceptance and final payment will be made, the Contractor shall remove from the site all machinery, equipment, surplus and discarded materials, rubbish, temporary structures, and stumps or portions of trees. He shall cut all brush and woods within the limits indicated and shall leave the site in a neat and presentable condition. Material cleared from the site and deposited on adjacent property will not be considered as having been disposed of satisfactorily, unless the Contractor has obtained the written permission of such property Owner.

**40-11 GENERAL GUARANTY.** Neither the final certificate of payment nor any provision in the Contract nor partial or entire occupancy of the premises by the Owner shall constitute an acceptance of work not done in accordance with the Contract or relieve the Contractor of liability in respect to any express warranties or responsibilities for faulty materials or workmanship. The Contractor shall remedy any defects in the work and pay for any damage to other work resulting therefrom, which shall appear within a period of one year



from the date of final acceptance of work unless a longer period is specified. The Owner will give notice of observed defects with reasonable promptness.

**40-12 INTERPRETATION OF CONTRACT PLANS AND SPECIFICATIONS.** The Contractor shall, at his own proper cost and expense, provide and do everything necessary to prepare for and perform everything required under the conditions and requirements of the Contract and hereby agrees that the Engineer shall, in the first instance, be the interpreter of the Specifications and Plans, and all the work contemplated and described therein shall be so done as to satisfy him that its intent is fulfilled. The Engineer shall promptly render impartial decision on all claims of either party against the other and on all other matters governed by this intent, including questions as to the execution and progress of the work, the quality and fitness of materials and workmanship, the suitability of methods and costs and values. The determination and decision of the Engineer shall be final and binding on the Contractor and shall be a condition precedent to the right of the Contractor to receive any money hereunder. The Contractor may appeal the Engineer's decision per the method described in the Contract under section 30-11, DISPUTES.

**40-13 PROTECTION OF WORK AND PROPERTY - EMERGENCY.** The Contractor shall at all times safely guard the Owner's property from injury or loss in connection with this contract. He shall at all times safely guard and protect his own work, and that of adjacent property from damage. The Contractor shall replace or make good any such damage, loss or injury unless such be caused directly by errors contained in the Contract or by the Owner, or the Owner's duly authorized representatives.

In case of an emergency which threatens loss or injury of property, and/or safety of life, the Contractor will be allowed to act, without previous instructions from the Engineer, in a diligent manner. He shall notify the Engineer immediately thereafter. Any claim for compensation by the Contractor due to such extra work shall be promptly submitted to the Engineer for approval.

Where the Contractor has not taken action but has notified the Engineer of an emergency threatening injury to persons or damage to the work or any adjoining property, he shall act as instructed or authorized by the Engineer.

The amount of reimbursement claimed by the Contractor on account of any such emergency action shall be determined in the manner provided in the subsection entitled EXTRA WORK of this section.

#### **END OF SECTION 40**

## **SECTION 50**

### **CONTROL OF WORK**

50-01 **AUTHORITY OF THE ENGINEER.** The Engineer shall decide any and all questions which may arise as to the quality and acceptability of materials furnished, work performed, and as to the manner of performance and rate of progress of the work. He shall decide all questions which may arise as to the interpretation of the specifications or plans relating to the work, the fulfillment of the contract on the part of the Contractor, and the rights of different Contractors on the project. The Engineer shall determine the amount and quality of the several kinds of work performed and materials furnished which are to be paid for the under contract.

50-02 **PLANS AND DETAIL DRAWINGS.** Approved drawings, details, profiles, and sections on file in the office of the Engineer will show the location, details, and dimensions of the Work contemplated, and all Work shall be in strict conformity therewith and with the Specifications.

Supplemental, detail, and working drawings as required in the Specifications and furnished by the Contractor shall upon approval become a part of the complete Drawings. Such approval of supplemental, detail, and working drawings, however, shall not operate to relieve the Contractor of any of his/her responsibility under the Contract for the satisfactory completion of the Work, nor for the accuracy of the dimensions, details, or quantities or for their agreement.

The detail drawings shall be made on the dull side of tracing cloth and shall be of the same size as the original contract drawings, with margins and titles conforming thereto. When submitting detail drawings for approval, complete sets of prints as directed shall be furnished the Engineer who will return one set either approved or with corrections marked thereon. Finally, the Contractor shall furnish the Engineer with complete sets of prints as directed of the corrected and approved detail drawings. No changes shall be made in the approved drawings without the written consent of the Engineer.

The tracings of all detail drawings, on ink on not less than .003 in. single matted mylar, shall be delivered to the Engineer upon completion of the Work and shall become the property of the Owner.

The Contract price shall include the cost of the Contractor furnishing the Engineer copies of all working drawings and the Contractor will not be allowed extra compensation therefor.

Any work done or materials furnished by the Contractor prior to the approval of the working drawings shall be at his/her own risk. The words "approved as noted" or words of similar import placed by the Engineer on a contract or shop drawing submittal mean that all items or details that are specifically marked for further action. The withholding of an unqualified approval by the Engineer with respect to any contract drawing or shop drawing is its entirety shall under no circumstances constitute a basis for delay in arranging for and proceeding with the manufacturing, fabricating, delivering and installing, in accordance with the Contract, of those items or details on such drawings which have been approved as aforesaid.

50-03 **CONFORMITY WITH PLANS AND SPECIFICATIONS.** All work and all materials furnished shall be in reasonably close conformity with the lines, grades, grading sections, cross sections, dimensions, material requirements, and testing requirements that are specified (including specified tolerances) in the contract, plans or specifications.

If the Engineer finds the materials furnished, work performed, or the finished product not within reasonably close conformity with the plans and specifications but that the portion of the work affected will, in his/her

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opinion, result in a finished product having a level of safety, economy, durability, and workmanship acceptable to the Owner, he will advise the Owner of his/her determination that the affected work be accepted and remain in place. In this event, the Engineer will document his/her determination and recommend to the Owner a basis of acceptance which will provide for an adjustment in the contract price for the affected portion of the work. The Engineer's determination and recommended contract price adjustments will be based on good engineering judgment and such tests or retests of the affected work as are, in his/her opinion, needed. Changes in the contract price shall be covered by contract modifications (change order or supplemental agreement) as applicable.

If the Engineer finds the materials furnished, work performed, or the finished product are not in reasonably close conformity with the plans and specifications and have resulted in an unacceptable finished product, the affected work or materials shall be removed and replaced or otherwise corrected by and at the expense of the Contractor in accordance with the Engineer's written orders.

For the purpose of this subsection, the term "reasonably close conformity" shall not be construed as waiving the Contractor's responsibility to complete the work in accordance with the contract, plans, and specifications.

The term shall not be construed as waiving the Engineer's right to insist on strict compliance with the requirements of the contract, plans, and specifications during the Contractor's prosecution of the work, when, in the Engineer's opinion, such compliance is essential to provide an acceptable finished portion of the work.

For the purpose of this subsection, the term "reasonably close conformity" is also intended to provide the Engineer with the authority to use good engineering judgment in his/her determinations as to acceptance of work that is not in strict conformity but will provide a finished product equal to or better than that intended by the requirements of the contract, plans and specifications.

**50-04 COORDINATION OF CONTRACT, PLANS, AND SPECIFICATIONS.** The contract, plans, specifications, and all referenced standards cited are essential parts of the contract requirements. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of discrepancy, calculated dimensions will govern over scaled dimensions; contract technical specifications shall govern over contract general provisions, plans, cited standards for materials or testing, and cited FAA advisory circulars; contract general provisions shall govern over plans, cited standards for materials or testing, and cited FAA advisory circulars; plans shall govern over cited standards for materials or testing and cited FAA advisory circulars.

The Contractor shall keep on the work site a copy of the Drawings and Specifications that the Engineer shall at all times have access thereto. Anything mentioned in the specifications and not shown on the drawings or shown on the drawings and not mentioned in the specifications shall be of like effect as if shown on mentioned in both. In case of difference between the drawings and specifications, the specifications shall govern. Omissions from the drawings or specifications or misdescription of details of work which are manifestly necessary to carry out the intent of the drawings and specifications, or which are customarily performed, shall not relieve the Contractor from performing such omitted or misdescribed details of work but they shall be performed as if fully and correctly set forth and described in the drawings and specifications.

The Contractor shall check all drawings furnished him immediately upon their receipt and shall promptly notify the Engineer of any discrepancies. Figures marked down on Contract Drawings shall in general be followed in preference to scale measurements. Large scale drawings shall in general govern small scale drawings. The Contractor shall compare all Contract Drawings and verify before laying out the work and will be responsible for any errors which might have been avoided thereby. When measurements are affected by conditions already established, the Contractor shall take measurements notwithstanding the giving of scale of figure dimensions on the Contract Drawings.

Deviations from the Contract Drawings and the dimensions thereon given, whether or not error is believed to exist, shall be made only after approval is obtained from the Engineer.

All questions regarding the figures, drawings and the interpretation thereof and the resolving of conflicts and inconsistencies therein shall be determined by the Engineer, and such determination shall be final, subject only to appeal under DISPUTES.

The Contractor shall not take advantage of any apparent error or omission on the plans or specifications. In the event the Contractor discovers any apparent error or discrepancy, he shall immediately call upon the Engineer for his/her interpretation and decision, and such decision shall be final.

The entire work provided in these technical specifications and on the drawings shall be constructed and finished in every respect in a good workmanlike and substantial manner. All parts necessary for the proper and complete execution of the work whether the same may have been specifically mentioned or not, or indicated on the drawings, shall be done and furnished and installed in a manner corresponding with the rest of the work as if the same were particularly described and specifically provided for herein. It is not intended that the drawings shall show every detailed piece of material or equipment, but such parts and pieces as may be necessary to satisfactorily complete any system in accordance with the best practices and regulatory requirements, even though not shown, shall be furnished and installed.

50-05 COOPERATION OF CONTRACTOR. The Contractor will be supplied with two copies each of the plans and specifications. He shall have available on the work at all times one copy each of the plans and specifications. Additional copies of plans and specifications may be obtained by the Contractor for the cost of reproduction.

The Contractor shall give constant attention to the work to facilitate the progress thereof, and he shall cooperate with the Engineer and his/her inspectors and with other contractors in every way possible. The Engineer shall allocate the work and designate the sequence of construction in case of controversy between contractors. The Contractor shall have a competent superintendent on the work at all times who is fully authorized as his/her agent on the work. The superintendent shall be capable of reading and thoroughly understanding the plans and specifications and shall receive and fulfill instructions from the Engineer or his/her authorized representative.

The Contractor shall at all times be represented at the site of the work in person or employ a construction superintendent or foreman who shall have full authority to act for the Contractor. It is understood that such representative shall be competent and acceptable to the Owner.

The Contractor may authorize his superintendent or other individual to sign for him, and in his name:

- (1) the schedule of amounts for contract payments;
- (2) progress schedules;
- (3) periodic estimated for partial payments and related papers;
- (4) change orders;

**Provided:** Prior to the execution of the first of any such documents the Contractor has filed with the Owner, a statement evidencing such authorization and authenticating the signature to be honored shall be submitted to the Owner.

Whenever the Contractor is not present on any part of the Work when it may be desired to give directions, orders will be given by the Engineer and they shall be received and executed by the Superintendent or

Foreman including Foreman of Subcontractors who is in charge of the particular work in reference to which the orders are given.

The Contractor shall provide all reasonable facilities to enable the Engineer to inspect the workmanship and materials entering into the Work. S/He shall cooperate in the matter of setting and preserving stakes, benchmarks, etc., for controlling the Work.

The Contractor shall so carry on his/her work under the direction of the Engineer that public service corporations or municipal departments may enter on the Work to make changes in their structures or to place new structures and connections therewith without interference, and the Contractor shall have no claim for or on account of any delay which may be due to or result from said work of public service corporations or municipal departments.

**50-06 COOPERATION BETWEEN CONTRACTORS.** The Owner reserves the right to contract for and perform other or additional work on or near the work covered by this contract.

When separate contracts are let within the limits of any one project, each Contractor shall conduct his/her work so as not to interfere with or hinder the progress of completion of the work being performed by other Contractors. Contractors working on the same project shall cooperate with each other as directed.

Each Contractor involved shall assume all liability, financial or otherwise, in connection with his/her contract and shall protect and save harmless the Owner from any and all damages or claims that may arise because of inconvenience, delays, or loss experienced by him because of the presence and operations of other Contractors working within the limits of the same project.

If there be a difference of opinion as to the respective rights of the Contractor and others within the limits of or adjacent to the Work, the Engineer will decide as to such rights in order to secure for the Owner the completion of the Work in general harmony and in a satisfactory manner, and his/her decision shall be final and binding on the Contractor.

The Contractor shall coordinate his operations with those of other Contractors. Cooperation will be required in the arrangement for the storage of materials and in the detailed execution of the work. The Contractor, including his Subcontractors, shall keep informed of the progress and the detail work of other Contractors and shall notify the Owner immediately of lack of progress or defective workmanship on the part of other Contractors. Failure of a Contractor to keep informed of the work progressing on the site and failure to give notice of lack of progress or defective workmanship by others shall be construed as acceptance by him of the status of the work as being satisfactory for proper coordination with his own work.

The Contractor shall arrange his/her work and shall place and dispose of the materials being used so as not to interfere with the operations of the other Contractors within the limits of the same project. He shall join his/her work with that of the others in an acceptable manner and shall perform it in proper sequence to that of the others.

If, though acts of neglect on the part of the Contractor, any other Contractor, or any Subcontractor shall suffer loss or damage on work, the Contractor agrees to settle with such other Contractor or Subcontractors by agreement or arbitration if such other Contractor or Subcontractors will so settle. If such Contractor or Subcontractor shall assert any claim against the Owner on account of any damage alleged to have been sustained, the Owner shall notify the Contractor, who shall indemnify and save harmless the Owner against any such claim.

**50-07 CONSTRUCTION LAYOUT AND STAKES.** The Engineer shall establish horizontal and vertical control only. The Contractor must establish all layout required for the construction of the work. Such stakes and markings as the Engineer may set for either his/her own or the Contractor's guidance shall be preserved by the Contractor. In case of negligence on the part of the Contractor, or his/her employees, resulting in the destruction of such stakes or markings, an amount equal to the cost of replacing the same may be deducted from subsequent estimates due the Contractor at the discretion of the Engineer.

The Contractor shall furnish assistance to the Engineer as requested to check the layout or otherwise control the work. Such assistance shall be understood to include the provision of suitable manpower to assist the Engineer in taping measurements, holding a survey rod for checking lines, grades, and the like. The Contractor's obligations for layout and furnishing assistance to the Engineer shall be deemed incidental to the completion of the various work items and no separate payment will be made for such layout and assistance.

**50-08 AUTHORITY AND DUTIES OF ENGINEERS' ASSISTANTS.** The Engineer may appoint such assistants as s/he desires and they shall be authorized, subject to the provisions of this Contract, to inspect the work and materials, to give directions pertaining to the Work or to the safety and convenience of the public, to approve or reject materials, to make measurements of quantities, and to perform such other duties as may be designated by the Engineer.

In case of any dispute arising between the Contractor and the Engineer's assistants as to materials furnished or the manner of performing the Work, the Engineer's assistants shall have the authority to reject the materials or to suspend the Work until the question at issue can be referred to and decided by the Engineer.

The Engineer's assistants are not authorized under any circumstance to revoke, alter, enlarge, relax, or release any requirements of these Specifications, nor to issue instructions contrary to the Plans and Specifications, and any action or statements by an Engineer's assistant to such effect shall not be binding upon the Owner. They shall in no case act as foreman or perform other duties for the Contractor.

**50-09 AUTOMATICALLY CONTROLLED EQUIPMENT.** Whenever batching or mixing plant equipment is required to be operated automatically under the contract and a breakdown or malfunction of the automatic controls occurs, the equipment may be operated manually or by other methods for a period 48 hours following the breakdown or malfunction, provided this method of operations will produce results which conform to all other requirements of the contract.

**50-10 AUTHORITY AND DUTIES OF INSPECTORS.** Inspectors employed by the Owner shall be authorized to inspect all work done and all material furnished. Such inspection may extend to all or any part of the work and to the preparation, fabrication, or manufacture of the materials to be used. Inspectors are not authorized to revoke, alter, or waive any provision of the contract. Inspectors are not authorized to issue instructions contrary to the plans and specifications or to act as foreman for the Contractor.

Inspectors employed by the Owner are authorized to notify the Contractor or his/her representatives of any failure of the work or materials to conform to the requirements of the contract, plans, or specifications and to reject such nonconforming materials in question until such issues can be referred to the Engineer for his/her decision.

**50-11 INSPECTION OF THE WORK.** All materials and each part or detail of the work shall be subject to inspection by the Engineer. The Engineer shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection.

If the Engineer requests it, the Contractor, at any time before acceptance of the work, shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of the work to the standard required by the specifications. Should the work thus exposed or examined prove acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for as extra work; but should the work so exposed or examined prove unacceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be at the Contractor's expense.

All work, all materials, whether incorporated in the work or not, all processes of manufacture, and all methods of construction shall be at all times and places subject to the inspection of the Engineer, FAA and the Owner. The Owner, who shall be the final judge of the quality and suitability of the work, materials, processes of manufacture, and methods of construction for the purposes for which they are used. Should they fail to meet his approval they shall be forthwith reconstructed, made good, replaced and/or corrected, as the case may be, by the Contractor at his own expense. Rejected material shall immediately be removed from the site. If, in the opinion of the Owner, it is undesirable to replace any defective or damaged materials or to reconstruct or correct any portion of the work injured or not performed in accordance with the Contract, the compensation to be paid to the Contractor hereunder shall be reduced by such amount as in the judgement of the Owner shall be equitable.

Any work done or materials used without supervision or inspection by an authorized representative of the Owner may be ordered removed and replaced at the Contractor's expense unless the Owner's representative failed to inspect after having been given reasonable notice in writing that the work was to be performed.

Should the contract work include relocation, adjustment, or any other modification to existing facilities, not the property of the (contract) Owner, authorized representatives of the Owners of such facilities shall have the right to inspect such work. Such inspection shall in no sense make any facility Owner a party to the contract, and shall in no way interfere with the rights of the parties to this contract.

All tests for the Owner shall be performed in such a manner as not to unnecessarily delay the work, and, unless otherwise provided for, shall be made at the expense of the Owner. The Contractor shall be charged with any costs of additional tests when the materials or workmanship tested does not meet specifications.

Neither inspection, testing, approval, nor acceptance of the work in whole or in part, by the Owner or its Owner shall relieve the Contractor or his Sureties of full responsibility for materials furnished for work performed not in strict accordance with the Contractor or any general or special warranties or for responsibility for faulty materials or workmanship.

Inspection of material and finished articles to be incorporated in the work at the site shall be made at the place of production, manufacture, or shipment, whenever the quantity justifies it, unless otherwise stated in the specifications and shall be final, except as regards latent defects, departures from specific requirements of the contract specifications and drawings, damage or loss in transit, fraud, or such gross mistakes as amount to fraud. Subject to the requirements contained in the preceding sentence, the inspection of material and workmanship for final acceptance as a whole or in part be made at the site.

The Contractor, if requested, shall furnish written information to the Engineer stating the original sources of supply and dates of manufacture of all materials manufactured away from the actual site of the Work. In order to ensure a proper time sequence for required inspection and approval, this information shall be furnished at least two (2) weeks (or as otherwise directed by the Engineer) in advance of the incorporation in the Work of any such materials.

Failure to reject any defective work or materials shall not in any way prevent later rejection when such defect is discovered or obligate the Owner to make final acceptance.

**50-12 REMOVAL OF UNACCEPTABLE AND UNAUTHORIZED WORK.** All work which does not form to the requirements of the contract, plans, and specifications will be considered unacceptable, unless otherwise determined acceptable by the Engineer as provided in the subsection titled CONFORMITY WITH PLANS AND SPECIFICATIONS of this section.

Unacceptable work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist prior to the final acceptance of the work, shall be removed immediately and replaced in an acceptable manner in accordance with the provisions of the subsection titled CONTRACTOR'S RESPONSIBILITY FOR WORK of Section 70.

Work done contrary to the instructions of the Engineer, work done beyond the lines shown on the plans or as given, except as herein specified, or any extra work done without authority, will be considered as unauthorized and will not be paid for under the provisions of the contract. Work so done may be ordered removed or replaced at the Contractor's expense.

Upon failure on the part of the Contractor to comply forthwith with any order of the Engineer made under the provisions of this subsection, the Engineer will have authority to cause unacceptable work to be remedied or removed and replaced and unauthorized work to be removed and to deduct the costs (incurred by the Owner) from any monies due or to become due the Contractor.

**50-13 LOAD RESTRICTIONS.** The Contractor shall comply with all legal load restrictions in the hauling of materials on public roads beyond the limits of the work. A special permit will not relieve the Contractor of liability for damage which may result from the moving of material or equipment.

The operation of equipment of such weight or so loaded as to cause damage to structures or to any other type of construction will not be permitted. Hauling of materials over the base course or surface course under construction shall be limited as directed. No loads will be permitted on a concrete pavement, base, or structure before the expiration of the curing period. The Contractor shall be responsible for all damage done by his/her hauling equipment and shall correct such damage at his/her own expense.

**50-14 MAINTENANCE DURING CONSTRUCTION.** The Contractor shall maintain the work during construction and until the work is accepted. This maintenance shall constitute continuous and effective work prosecuted day by day, with adequate equipment and forces so that the work is maintained in satisfactory condition at all times.

In the case of a contract for the placing of a course upon a course or subgrade previously constructed, the Contractor shall maintain the previous course or subgrade during all construction operations.

All costs of maintenance work during construction and before the project is accepted shall be included in the unit prices bid on the various contract items, and the Contractor will not be paid an additional amount for such work.

**50-15 FAILURE TO MAINTAIN THE WORK.** Should the Contractor at any time fail to maintain the work as provided in the subsection titled MAINTENANCE DURING CONSTRUCTION of this section, the Engineer shall immediately notify the Contractor of such noncompliance. Such notification shall specify a reasonable time within which the Contractor shall be required to remedy such unsatisfactory maintenance condition. The time specified will give due consideration to the exigency that exists.



Should the Contractor fail to respond to the Engineer's notification, the Engineer may suspend any work necessary for the Owner to correct such unsatisfactory maintenance condition, depending on the exigency that exists. Any maintenance cost incurred by the Owner, shall be deducted from monies due or to become due the Contractor.

**50-16 PARTIAL ACCEPTANCE.** If at any time during the prosecution of the project the Contractor substantially completes a usable unit or portion of the work, the occupancy of which will benefit the Owner, he may request the Engineer to make final inspection of that unit. If the Engineer finds upon inspection that the unit has been satisfactorily completed in compliance with the contract, he may accept it as being completed, and the Contractor may be relieved of further responsibility for that unit. Such partial acceptance and beneficial occupancy by the Owner shall not void or alter any provision of the contract.

**50-17 FINAL ACCEPTANCE.** When the work is substantially completed, the Contractor shall notify the Owner, in writing, that the work will be ready for final inspection on a definite date which shall be stated in such notice. Such notices shall be given at least ten (10) days prior to the date stated for final inspection, and the notice shall bear the signed concurrence of the representatives of the Owner. If the Engineer and Owner determine that the state of preparedness is as represented, he will make the arrangements necessary to have the final inspection commenced on the date stated in such notice, or as nearly thereafter as is practicable. The Engineer shall notify the Contractor in writing of final acceptance as of the date of the final inspection.

If, however, the inspection discloses any work, in whole or in part, as being unsatisfactory, the Engineer will give the Contractor the necessary instructions for correction of same and the Contractor shall immediately comply with and execute such instructions. Upon correction of the work, another inspection will be made which shall constitute the final inspection, provided the work has been satisfactorily completed. In such event, the Engineer will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of final inspection.

**50-18 CLAIMS FOR ADJUSTMENT AND DISPUTES.** If for any reason the Contractor deems that additional compensation is due him for work or materials not clearly provided for in the contract, plans, or specifications or previously authorized as extra work, he shall notify the Engineer in writing of his/her intention to claim such additional compensation before he begins the work on which he bases the claim. If such notification is not given or the Engineer is not afforded proper opportunity by the Contractor for keeping strict account of actual cost as required, then the Contractor hereby agrees to waive any claim for such additional compensation. Such notice by the Contractor and the fact that the Engineer has kept account of the cost of the work shall not in any way be construed as proving or substantiating the validity of the claim. When the work on which the claim for additional compensation is based has been completed, the Contractor shall, within 10 calendar days, submit his/her written claim to the Engineer who will present it to the Owner for consideration in accordance with local laws or ordinances.

Claims for additional compensation for extra work, due to alleged errors in specified locations or descriptions, will not be recognized unless accompanied by certified survey data made prior to the time the original conditions were disturbed, clearly showing that errors exist which resulted, or would result, in handling more material or performing more work than would be reasonably estimated from the specifications issued.

Any discrepancies which may be discovered between actual conditions and those represented by the specifications shall be reported to the Owner at once, and work shall not proceed, except at the Contractor's risk, until written instructions have been received by him from the Owner.

If, on the basis of the available evidence, the Contracting Officer determines that an adjustment of the contract price or time is justifiable, the procedure shall then be as provided therein for "Changes In The Work". The decision of the Contracting Officer is final in all questions related to "Claims For Extra Cost".

Nothing in this subsection shall be construed as a waiver of the Contractor's right to dispute final payment based on differences in measurements or computations.

50-19 COMMUNICATIONS. All notices, requests, instructions, approvals, proposals, and claims must be in writing. Any notice to or demand upon the Contractor shall be sufficiently given if delivered at the office of the Contractor as stated on the signature page of the Contract or at such other office as he may from time-to-time designate, in writing, to the Commission, or deposited in the United States Mail in a sealed, postage-prepaid envelope or if delivered with charges prepaid to any telegraph company for transmission to said Department or to such other address as the Owner may subsequently specify in writing to the Contractor for such purpose.

50-20 SHOP OR SPECIAL DRAWINGS. The Contractor shall submit promptly to the Engineer six (6) copies of each shop or special drawing in amplification of the Contract Drawings referred to in this Contract or in furtherance of the specifications before proceeding with the work when such drawings are necessary and requested by the Engineer. After examination of such drawings by the Engineer and the return thereof, the Contractor shall make such corrections to the drawings as have been indicated and shall furnish the Engineer with six (6) corrected copies. Regardless of corrections made in, or approval given to such drawings by the Engineer, the Contractor will nevertheless be responsible for the accuracy of such drawings and for their conformity to the Plans and Specifications, unless he notifies the Engineer, in writing, of any deviations at the time he furnishes such drawings.

- a. General. The Engineer may require shop drawings and/or samples for any materials or equipment to be furnished or for any construction methods to be employed. No work will be allowed to proceed for which shop drawings or samples have been requested until such drawings or samples have been provided by the Contractor and approved by the Engineer.
- b. Contractor's Responsibilities. All materials and construction shall be in accordance with finally approved shop drawings, material tests, or the like as required. The purchase of, manufacture, or delivery to the site of any materials before final approval of applicable shop drawings, material tests, etc. will be entirely at the risk of the Contractor.

The Contractor shall be solely responsible for the correctness of all shop drawings and for the correct fitting of the members and parts shown on the shop drawings. The Engineer's review and approval shall be only for conformance with the design concepts of the plans and specifications. The Engineer's approval of separate items shall not be taken as an approval of any complete assembly in which the separate items are incorporated.

It shall be understood that the Engineer's approval of shop drawings does not in any way relieve the Contractor of his sole responsibility for completing all work in strict accordance with the plans and specifications nor of his sole responsibility to see that all parts of the work fit with each other so that the completed work is entirely satisfactory to the Owner and the Engineer.

- c. Submission to Engineer. Before submittal to the Engineer, the Contractor shall check all shop drawings or samples for conformance with the Contract Documents including the plans and specifications, for suitability and satisfactory incorporation in the completed Contract work, and for correct dimensions, ratings and assembly, and shall note legibly on each drawing or sample that he has verified its acceptability and that he approves it. If there are any deviations in the shop drawings or samples from the plans and specifications, the Contractor shall so note legibly on the shop drawings or samples and also inform the Engineer separately in writing of any such deviation. The Contractor shall submit shop drawings and samples in orderly sequence matched to the construction

work, with sufficient completeness to enable review, with reasonable promptness, and allowing sufficient time for the Engineer to review them. All shop drawings and samples shall be properly identified as to their location and application in the Contract work and as to their association with various parts of the plans and specifications.

- d. Form of Shop Drawings. Shop drawings may include general, assembly and detail drawings, diagrams, illustrations, material and equipment schedules with manufacturer's name and catalog numbers and description, performance charts, catalog cuts, brochure and such other information and data as is necessary and required by the Engineer for any part of the Contract work.
- e. Resubmittal. If shop drawings or samples are not approved by the Engineer, the Contractor shall correct or make changes as noted and shall resubmit revised shop drawings or new samples until approved by the Engineer.
- f. Shop Drawings Required. The Engineer may require, and the Contractor shall provide, shop drawings giving information on any part of the Contract work which in the opinion of the Engineer are necessary or desirable to evaluate conformance to the plans and specifications.

50-21 DAMAGE. The Contractor shall be responsible for all damages to persons or property that occur as a result of his or her Subcontractor's fault or negligence in connection with the prosecution of the work, and shall be responsible for all materials delivered (including Owner furnished material and equipment delivered to the Contractor unless otherwise specifically provided) and work performed until completion and final acceptance. Upon completion of the Contract, the work shall be delivered complete and undamaged.

50-22 REVIEW BY THE OWNER AND ENGINEER. The Owner and the authorized representatives and Owner agents shall, at all times, have access to and be permitted to observe and review all work materials, equipment, payroll, personnel records, employment conditions, material invoices, contracts, books of account and other relevant data and records.

Duly authorized representatives of the Federal Aviation Administration and/or the State Aeronautics Commission shall be permitted to inspect and review all work, materials, payrolls, records of personnel, conditions of employment, invoices of materials, books of accounts and other relevant data and records. Further, if required by the above mentioned agencies, or their duly authorized representatives, the Contractor shall provide and maintain and will make available during the construction of the project adequate facilities at the project site for the use of the representatives of the above mentioned agencies to review the project.

It is understood that inspection and review in no way makes the Federal Government or the State a party to the Contract and will in no way interfere with the rights of either party thereunder.

50-23 ADDITIONAL INSTRUCTIONS AND DETAIL DRAWINGS. The Contractor will be furnished additional instructions and detail drawings, if necessary, to carry out the work included in the contract. The drawings enumerated in the General Specifications may be supplemented or superseded by such additional general and/or detail drawings as may be necessary or desirable as the work progresses. Any such additional drawings shall become part of the Contract and shall be as binding upon the parties hereto as if they were enumerated herein.

The Contractor shall carry out the work in accordance with the additional detail drawings and instructions. The Contractor and the Engineer will prepare jointly (a) a schedule, fixing the dates at which special detail drawings will be required, such drawings, if any, to be furnished by the Engineer in accordance with said schedule, and (b) a schedule fixing the respective dates for the submission of shop drawings, the beginning of manufacture, testing and installation of materials, supplies and equipment, and the completion of the various

parts of the work; each such schedule to be subject to change from time to time in accordance with the progress of work.

50-24 RECORD DRAWINGS. A complete set of drawings shall be kept at the job site, shall have all approved changes clearly and accurately marked on them by the Contractor and shall indicate the word "as-built". This set of drawings shall be delivered by the Contractor in good condition to the Engineer at the completion of the work, before the time when the final payment shall be due and payable.

**END OF SECTION 50**

## **SECTION 60**

### **CONTROL OF MATERIALS**

**60-01 SOURCE OF SUPPLY AND QUALITY REQUIREMENTS.** The materials used on the work shall conform to the requirements of the contract, plans, and specifications. Unless otherwise specified, such materials that are manufactured or processed shall be new (as compared to used or reprocessed).

In order to expedite the inspection and testing of materials, the Contractor shall furnish complete statements to the Engineer as to the origin, composition, and manufacture of all materials to be used in the work. Such statements shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials.

At the Engineer's option, materials may be approved at the source of supply before delivery is stated. If it is found after trial that sources of supply for previously approved materials do not produce specified products, the Contractor shall furnish approved materials from other approved sources. Materials furnished by the Contractor which do not conform to the Specifications at the time of incorporation into the Work shall not be deemed acceptable simply because they were obtained from a source of supply that had been approved by the Engineer.

The Contractor may be required to furnish sworn certificates as to quality and quantity of material before said materials are incorporated in the Work.

The Contractor shall furnish airport lighting equipment that conforms to the requirements of cited materials specifications.

**60-02 SAMPLES, TESTS, AND CITED SPECIFICATIONS.** All materials used in the work shall be inspected, tested, and approved by the Engineer before incorporation in the work. Any work in which untested materials are used without approval or written permission of the Engineer shall be performed at the Contractor's risk. Materials found to be unacceptable and unauthorized will not be paid for and, if directed by the Engineer, shall be removed at the Contractor's expense. Unless otherwise designated, tests in accordance with the cited standard methods of AASHTO or ASTM which are current on the date of advertisement for bids will be made by and at the expense of the Owner. Samples will be taken by a qualified representative of the Owner. All materials being used are subject to inspection, test, or rejection at any time prior to or during incorporation into the work. Copies of all tests will be furnished to the Contractor's representative at his/her request.

**60-03 CERTIFICATION OF COMPLIANCE.** The Engineer may permit the use, prior to sampling and testing, of certain materials or assemblies when accompanied by manufacturer's certificates of compliance stating that such materials or assemblies fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer. Each lot of such materials or assemblies delivered to the work must be accompanied by a certificate of compliance in which the lot is clearly identified.

Materials or assemblies used on the basis of certificates of compliance may be sampled and tested at any time and if found not to be in conformity with contract requirements will be subject to rejection whether in place or not.

The form and distribution of certificates of compliance shall be as approved by the Engineer.

When a material or assembly is specified by "brand name or equal" and the Contractor elects to furnish the specified "brand name", the Contractor shall be required to furnish the manufacturer's certificate of compliance for each lot of such material or assembly delivered to the work. Such certificate of compliance shall clearly identify each lot delivered and shall certify as to:

- a. Conformance to the specified performance, testing, quality or dimensional requirements; and,
- b. Suitability of the material or assembly for the use intended in the contract work.

Should the Contractor propose to furnish an "or equal" material or assembly, he shall furnish the manufacturer's certificates of compliance as hereinbefore described for the specified brand name material or assembly. However, the Engineer shall be the sole judge as to whether the proposed "or equal" is suitable for use in the work.

The Engineer reserves the right to refuse permission for use of materials or assemblies on the basis of certificates of compliance.

**60-04 PLANT INSPECTION.** The Engineer or his/her authorized representative may inspect, at its source, any specified material or assembly to be used in the work. Manufacturing plants may be inspected from time to time for the purpose of determining compliance with specified manufacturing methods or materials to be used in the work and to obtain samples required for his/her acceptance of the material or assembly.

Should the Engineer conduct plant inspections, the following conditions shall exist:

- a. The Engineer shall have the cooperation and assistance of the Contractor and the producer with whom he has contracted for materials.
- b. The Engineer shall have full entry at all reasonable times to such parts of the plant that concern the manufacture or production of the materials being furnished.
- c. If required by the Engineer, the Contractor shall arrange for adequate office or working space that may be reasonably needed for conducting plant inspections. Office or working space should be conveniently located with respect to the plant.

It is understood and agreed that the Owner shall have the right to retest any material which has been tested and approved at the source of supply after it has been delivered to the site. The Engineer shall have the right to reject only material which, when retested, does not meet the requirements of the contract, plans, or specifications.

**60-05 ENGINEER'S FIELD OFFICE AND LABORATORY.** When specified and provided for as a contract item, the Contractor shall furnish a building for the exclusive use of the Engineer as a field office and field testing laboratory. The building shall be furnished and maintained by the Contractor as specified herein and shall become property of the Contractor when the contract work is completed.

**60-06 STORAGE OF MATERIALS.** Materials shall be so stored as to assure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, may again be inspected prior to their use in the work. Stored materials shall be located so as to facilitate their prompt inspection. The Contractor shall coordinate the storage of all materials with the Engineer. Materials to be stored on airport property shall not create an obstruction to air navigation nor shall they interfere with the free and unobstructed movement of aircraft. Unless otherwise shown on the plans, the storage of materials and the location of the Contractor's plant and parked equipment or vehicles shall be as directed by the Engineer.

Private property shall not be used for storage purposes without written permission of the Owner or lessee of such property. The Contractor shall make all arrangements and bear all expenses for the storage of materials on private property. Upon request, the Contractor shall furnish the Engineer a copy of the property Owner's permission.

Materials and equipment shall be progressively delivered to the site so that there will be neither delay in the progress of the Work nor an accumulation of material that is not to be used within a reasonable time. Stockpiling of materials and storage of any construction equipment shall be as far away from the edge of any body of water as is practical, however, in any case, it should not be within 100 feet of wetlands or the edge of any body of water.

Materials shall be stored at the expense of the contractor so as to ensure the preservation of their quality and fitness for the Work. When considered necessary by the Engineer, they shall be placed on wooden platforms or other hard, clean surfaces, and not on the ground, and shall be placed under cover when directed. The ground and ground water shall be protected by the Contractor in order to avoid contamination, at his/her expense, to the satisfaction of the Engineer. Stored materials shall be located to facilitate prompt inspection.

No hazardous waste or hazardous materials including, but not limited to, petroleum products, chemicals, contaminated soil, demolitions, demolition debris, including any vessels containing such materials, are allowed to be stored on the Airport.

All storage sites on private or airport property shall be restored to their original condition by the Contractor at his/her entire expense, except as otherwise agreed to (in writing) by the Owner or lessee of the property.

60-07 UNACCEPTABLE MATERIALS. Any material or assembly that does not conform to the requirements of the contract, plans, or specifications shall be considered unacceptable and shall be rejected. The Contractor shall remove any rejected material or assembly from the site of the work, unless otherwise instructed by the Engineer. Should the Contractor fail to remove defective material within the time indicated in writing, the Engineer shall have the authority to remove and replace the defective material, and the cost of such removal and replacement will be deducted from any monies due or to become due the Contractor.

No rejected material or assembly, the defects of which have been corrected by the Contractor, shall not be returned to the site of the work until such time as the Engineer has approved its use in the work.

60-08 OWNER FURNISHED MATERIALS. The Contractor shall furnish all materials required to complete the work, except those specified herein (if any) to be furnished by the Owner. Owner-furnished materials shall be made available to the Contractor at the location specified herein.

All costs of handling, transportation from the specified location to the site of work, storage, and installing Owner-furnished materials shall be included in the unit price bid for the contract item in which such Owner-furnished material is used.

After any Owner-furnished material has been delivered to the location specified, the Contractor shall be responsible for any demurrage, damage, loss, or other deficiencies which may occur during the Contractor's handling, storage, or use of such Owner-furnished material. The Owner will deduct from any monies due or to become due the Contractor any cost incurred by the Owner in making good such loss due to the Contractor's handling, storage, or use of Owner-furnished materials.

60-09 WARRANTY OF TITLE. No material, supplies, or equipment for the work shall be purchased subject to any chattel mortgage or under a conditional sale or other agreement by which an interest therein or in any part thereof is retained by the seller or supplier. The Contractor warrants good title to materials, supplies, and

equipment installed or incorporated in the work and agrees, upon completion of the work, to deliver the premises to the Owner free from any claims, liens, or charges; and further agrees that no persons furnishing any material or labor for any work to be performed under this Contract shall have any right to a lien upon the premises. Nothing contained in this paragraph, however, shall defeat or impair the right of such persons furnishing materials or labor under any bond given by the Contractor for their protection of any rights under law, to look to funds due the Contractor in the hands of the Owner. The provisions of this paragraph shall be inserted in all subcontracts, and notice of its provisions shall be given to all persons furnishing materials for the work when no formal contract is entered into for such materials. If, at any time before or within ninety (90) days after the whole work herein agreed to be performed has been completed and accepted by the Owner, any person or persons claiming to have performed any labor or furnished any material toward the performance or completion of this Contract shall file with the Owner or other proper person under applicable state law such notice or lien as is described in applicable state law, then and in every case the Owner shall have the right to retain, anything herein contained to the contrary thereof notwithstanding, from the monies under its control or due or to become due under this agreement, so much of such monies as shall be sufficient to pay off, satisfy and discharge the amount in such notice, together with the reasonable costs of any such action or actions brought or that may be brought to enforce such claims on the line created by the filing of such notice.

The monies so retained shall be retained by the Owner until the line thereon created by the said laws and filing of said notices shall be discharged pursuant to the provisions of said laws. The Contractor is required to comply with any applicable provision of the laws of the State.

60-10 DOMESTIC PREFERENCE FOR MATERIALS. In the performance of the work covered by this Contract the Contractor, Subcontractors, material, men or suppliers shall use only such unmanufactured articles, materials, and supplies as have been mined or produced in the United States, and only such manufactured articles, materials and supplies mined, produced, or manufactured, as the case may be, in the United States. The foregoing provision shall not apply to such articles, materials, or supplies of the class or kind to be used or such articles, materials or supplies from which they are manufactured, as are not mined, produced, or manufactured, as the case may be in the United States insufficient and reasonably available commercial quantities and of a satisfactory quality, or to such articles, materials, or supplies as may be excepted by the Secretary of Commerce under the provisions of Title III, Section 3 of the act of March 3, 1933, 47 Stat. 1520 (U.S. Code, Title 41, Sec. 10b). Other considerations being equal, a preference in the purchase of supplies and materials shall be shown, in favor, first of supplies, and materials manufactured and sold within the state where the project is located and, second, of supplies and materials manufactured and sold elsewhere in the United States.

#### **END OF SECTION 60**



## **SECTION 70**

### **LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC**

**70-01 LAWS TO BE OBSERVED.** The Contractor shall keep fully informed of all Federal and state laws, all local laws, ordinances, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the work, or which in any way affect the conduct of the work. If any discrepancy or inconsistency is discovered in the Contract for this Work in relation to any such law, ordinance, regulation, order, or decree, s/he shall forthwith report the same to the Engineer in writing. He shall at all times observe and comply with all such laws, ordinances, regulations, orders, and decrees; and shall protect and indemnify the Owner and all his/her officers, agents, or servants against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by himself or his/her employees.

**70-02 PERMITS, LICENSES, AND TAXES.** The Contractor shall procure all permits and licenses, pay all charges, fees, and taxes, and give all notices necessary and incidental to the due and lawful prosecution of the work.

No work shall be undertaken or materials ordered without obtaining such permits, licenses and approvals. Proof of acceptance by the above authorities shall be submitted by the Contractor to the Owner upon completion of the work. Originals of these documents shall be submitted to the Owner for permanent retention, with a copy of each available at the project site.

**70-03 PATENTED DEVICES, MATERIALS, AND PROCESSES.** If the Contractor is required or desires to use any design, device, material, or process covered by letters of patent or copyright, he shall provide for such use by suitable legal agreement with the patentee or Owner. The Contractor and the surety shall indemnify and save harmless the Owner, any third party, or political subdivision from any and all claims for infringement by reason of the use of any such patented design, device, material or process, or any trademark or copyright, and shall indemnify the Owner for any costs, expenses, and damages which it may be obliged to pay by reason of an infringement, at any time during the prosecution or after the completion of the work.

If the Contractor uses any design, device or materials covered by letters, patents or copyright, he shall provide for such use by suitable agreement with the Owner of such patented or copyrighted design, device or material.

It is mutually agreed and understood that, without exception, the contract prices shall include all royalties or costs arising from the use of such design, device or materials, in any way involved in the work. The Contractor and/or his Sureties shall indemnify and save harmless the Owner from any and all claims for infringement by reason of the use of such patented or copyrighted design, device or materials, or any trademark or copyright in connection with work agreed to be performed under this Contract, and shall indemnify the Owner for any cost, expense or damage which it may be obliged to pay by reason of such infringement at any time during the prosecution of the work or after completion of the work.

**70-04 RESTORATION OF SURFACES DISTURBED BY OTHERS.** The Owner reserves the right to authorize the construction, reconstruction, or maintenance of any public or private utility service, FAA or National Oceanic and Atmospheric Administration (NOAA) facility, or a utility service of another government agency at any time during the progress of the work. To the extent that such construction, reconstruction, or maintenance has been coordinated with the Owner, such authorized work (by others) is indicated as follows:

- The Federal Aviation Administration - Airways Facilities Branch
- Dig Safe

Except as listed above, the Contractor shall not permit any individual, firm, or corporation to excavate or otherwise disturb such utility services or facilities located within the limits of the work without the written permission of the Engineer.

Should the Owner of public or private utility service, FAA, or NOAA facility, or a utility service of another government agency be authorized to construct, reconstruct, or maintain such utility service or facility during the progress of the work, the Contractor shall cooperate with such Owners by arranging and performing the work in this contract so as to facilitate such construction, reconstruction or maintenance by others whether or not such work by others is listed above. When ordered as extra work by the Engineer, the Contractor shall make all necessary repairs to the work which are due to such authorized work by others, unless otherwise provided for in the contract, plans, or specifications. It is understood and agreed that the Contractor shall not be entitled to make any claim for damages due to such authorized work by others or for any delay to the work resulting from such authorized work.

**70-05 FEDERAL AID PARTICIPATION.** For AIP contracts, the United States Government has agreed to reimburse the Owner for some portion of the contract costs. Such reimbursement is made from time to time upon the Owner's (sponsor's) request to the FAA. In consideration of the United States Government's (FAA's) agreement with the Owner, the Owner has included provisions in this contract pursuant to the requirements of the Airport Improvement Act of 1982, as amended by the Airport and Airway Safety and Capacity Expansion Act of 1987, and the Rules and Regulations of the FAA that pertain to the work.

As required by the Act, the contract work is subject to the inspection and approval of duly authorized representatives of the Administrator, FAA, and is further subject to those provisions of the rules and regulations that are cited in the contract, plans, or specifications.

No requirement of the Act, the rules and regulations implementing the Act, or this contract shall be construed as making the Federal Government a party to the contract nor will any such requirement interfere, in any way, with the rights of either party to the contract.

**70-06 SANITARY, HEALTH, AND SAFETY PROVISIONS.** The Contractor shall provide and maintain in a neat, sanitary condition such accommodations for the use of his/her employees as may be necessary to comply with the requirements of the state and local Board of Health, or of other bodies or tribunals having jurisdiction.

Attention is directed to Federal, state, and local laws, rules and regulations concerning construction safety and health standards. The Contractor shall not require any worker to work in surroundings or under conditions are unsanitary, hazardous, or dangerous to his/her health or safety.

**70-07 PUBLIC CONVENIENCE AND SAFETY.** The Contractor shall control his/her operations and those of his/her subcontractors and all suppliers, to assure the least inconvenience to the traveling public. Under all circumstances, safety shall be the most important consideration.

The Contractor shall maintain the free and unobstructed movement of aircraft and vehicular traffic with respect to his/her own operations and those of his/her subcontractors and all suppliers in accordance with the subsection titled MAINTENANCE OF TRAFFIC of Section 40 hereinbefore specified and shall limit such operations for the convenience and safety of the traveling public as specified in the subsection titled LIMITATION OF OPERATIONS of Section 80 hereinafter.

The Contractor shall be responsible for the maintenance of traffic over, through, or around the Work included in his/her Contract with the maximum of safety and practicable convenience to such traffic during the life of the Contract, and whether or not work thereon has been suspended temporarily. S/He shall take all

precautions for preventing injuries to persons or damage to property in or about the Work. If the Contractor constructs temporary bridges or provides temporary crossings of streams, his/her responsibility for accidents shall include the roadway approaches as well as the structures of such crossings.

The Work shall be carried on in such a manner as to provide safe passage at all times for public travel and with least obstruction to traffic. The Contractor shall provide and maintain at his/her own expense (except as otherwise provided herein) in a safe and passable condition, such temporary by-passes and temporary bridges as may be necessary to accommodate traffic. Roads shall be closed to travel only as directed by the Engineer.

The Contractor shall so carry on his/her work that travel, as specified in the General Specifications, will not be obstructed. The Contractor shall at all times so conduct the Work that the abutters shall have reasonable access to their property as directed by the Engineer. When it is necessary to leave materials and equipment upon the site of the Work or in the vicinity thereof, they shall be placed so as to cause the least possible obstruction to pedestrians and other travel.

**70-08 BARRICADES, WARNING SIGNS, AND HAZARD MARKINGS.** The Contractor shall furnish, erect, and maintain all barricades, warning signs, and markings for hazards necessary to protect the public and the work. When used during periods of darkness, such barricades, warning signs, and hazard markings shall be suitably illuminated. He shall also furnish at his own expense a sufficient number of watchmen at all times to protect the Work.

For vehicular and pedestrian traffic, the Contractor shall furnish, erect, and maintain barricades, warning signs, lights and other traffic control devices in reasonable conformity with the Manual of Uniform Traffic Control Devices for Streets and Highways (published by the United States Government Printing Office).

When the work requires closing an air operations area of the airport or portion of such area, the Contractor shall furnish, erect, and maintain temporary markings and associated lighting conforming to the requirements of AC 150/5340-1, Marking of Paved Areas on Airports.

The Contractor shall furnish, erect, and maintain markings and associated lighting of open trenches, excavations, temporary stock piles, and his/her parked construction equipment that may be hazardous to the operation of emergency fire-rescue or maintenance vehicles on the airport in reasonable conformance to AC 150/5370-2, Operational Safety on Airports During Construction Activity.

The Contractor shall identify each motorized vehicle or piece of construction equipment in reasonable conformance to AC 150/5370-2.

The Contractor shall furnish and erect all barricades, warning signs, and markings for hazards prior to commencing work which requires such erection and shall maintain the barricades, warning signs, and markings for hazards until their dismantling is directed by the Engineer.

Open-flame type lights shall not be permitted within the air operations areas of the airport.

**70-09 USE OF EXPLOSIVES.** Use of explosives will NOT be permitted unless expressly specified in the Special Provisions and even then only upon the written authorization of the Owner. When the use of explosives is necessary for the prosecution of the work, the Contractor shall exercise the utmost care not to endanger life or property, including new work. The Contractor shall be responsible for all damage resulting from the use of explosives.

All explosives shall be stored in a secure manner in compliance with all laws and ordinances, and all such storage places shall be clearly marked, "DANGEROUS – EXPLOSIVES", and shall be in the care of competent watchmen at all times. Where no local laws or ordinances apply, storage shall be provided

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satisfactory to the Engineer and, in general, not closer than 1,000 feet (300 m) from the work or from any building, road, or other place of human occupancy.

The Contractor shall notify each property Owner and public utility company having structures or facilities in proximity to the site of the work of his/her intention to use explosives. Such notice shall be given sufficiently in advance to enable them to take such steps as they may deem necessary to protect their property from injury.

The use of electrical blasting caps shall not be permitted on or within 1,000 feet (300 m) of the airport property.

**70-10 PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE.** The Contractor shall be responsible for the preservation of all public and private property, and shall protect carefully from disturbance or damage all land monuments, survey control points, and property markers until the Engineer has witnessed or otherwise referenced their location and shall not move them until directed. The Contractor shall be responsible for all damage or injury to property of any character, during the prosecution of the work, resulting from any act, omission, neglect, or misconduct in his/her manner or method of executing the work, or at any time due to defective work or materials, and said responsibility will not be released until the project shall have been completed and accepted.

When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or in consequence of the nonexecution thereof by the Contractor, he shall restore, at his/her own expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, or otherwise restoring as may be directed, or he shall make good such damage or injury in an acceptable manner.

He shall exercise special care during his operations to avoid injury to underground structures such as water or gas mains, pipes, conduits, manholes, catch basins, etc. When necessary, the Contractor shall cooperate with representatives of public service companies in order to avoid damage to their structures by furnishing and/or erecting suitable supports, props, shoring, or other means of protection. Fire hydrants adjacent to the Work shall at all times be kept readily accessible to fire apparatus, and no material or other obstructions shall be placed within a radius of ten (10) feet of a fire hydrant. Fire hydrants shall not be used by the Contractor without the written permission of the Owner.

All equipment used by the Contractor which could create potential fire hazard such a steam-generating or steam-operated machinery, heaters, gas generators, and the like shall be equipped with spark arresters and/or other safety devices and utmost precaution will be exercised by the Contractor in the use of such equipment.

**70-11 RESPONSIBILITY FOR DAMAGE CLAIMS.** The Contractor shall indemnify and save harmless the Engineer and the Owner and their officers, and employees from all suits actions, or claims of any character brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations of the Contractor; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any act or omission, neglect, or misconduct of said Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the "Workmen's Compensation Act", or any other law, ordinance, order, or decree. Money due the Contractor under and by virtue of his/her contract as may be considered necessary by the Owner for such purpose may be retained for the use of the Owner or, in case no money is due, his/her surety may be held until such suit or suits, action or actions, claim or claims for injuries or damages as aforesaid shall have been settled and suitable evidence to that effect furnished to the Owner, except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he is adequately protected by public liability and property damage insurance.

70-12 THIRD PARTY BENEFICIARY CLAUSE. It is specifically agreed between the parties executing the contract that it is not intended by any of the provisions of any part of the contract to create the public or any member thereof a third party beneficiary or to authorize anyone not a party to the contract to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of the contract.

70-13 CONTRACTORS PAYMENT CERTIFICATIONS.

- a. The Contractor shall pay all bills for labor and materials contracted by him/her, and all bills for the rental of appliances and equipment hired by him/her, for or on account of the Work herein contemplated.

At the time the Contractor submits each monthly estimate, s/he shall, if the Engineer so requires, deliver to the Engineer a written certificate, in a form satisfactory to the Engineer, showing in detail the following:

- (1) the amount of money which is then due and owing by the Contractor to each Subcontractor with respect to the Work;
- (2) the amount of money which has previously been paid by the Contractor to each Subcontractor with respect to the Work;
- (3) the amount of money which is then due and owing by the Contractor to other persons for or on account of materials, equipment or supplies delivered at the site of the Work;
- (4) the amounts of money which are then due and owing by the Contractor or by any Subcontractor to laborers employed under the Contract, as daily or weekly wages, for performance of the Work at the site thereof.

At the same time, as aforesaid, the Contractor shall, if the Engineer so requires, deliver to cause to be delivered to the Engineer a written certificate of each Subcontractor, in a form satisfactory to the Engineer, showing in detail the following:

- (5) the amount of money which is then due and owing by such Subcontractor to each of his/her own subcontractors;
- (6) the amount of money which is then due and owing by such Subcontractor to other persons for or on account of materials, equipment or supplies delivered at the site of the Work.

The term "laborers" as used herein shall include workmen and mechanics.

- b. The Contractor is required to make prompt payments of monies owed to its subcontractors and supplies. Refer to Section 90-07 PAYMENT OF SUBCONTRACTORS.
- c. The Owner may keep any monies which would otherwise be payable at any time hereunder, and apply the same, or so much as may be necessary therefor, to the payment of any expenses, losses, or damages incurred by the Owner and determined as herein provided, and may retain, until all claims are settled, so much as may be necessary therefor, to the payment of any expenses, losses, or damages incurred by the Owner and determined as herein provided, and may retain, until all claims are settled, so much of such monies as, in the opinion of the Owner, will be required to settle:

- (1) all claims against the Owner and its officers and agents.
- (2) all claims for labor performed or furnished,
- (3) all claims for materials used or employed in such construction and repair, including materials so employed but not incorporated in the construction or repair work and not wholly or necessarily consumed or made so worthless as to lose identity, but only to the extent of its purchase price less fair salvage value, and
- (4) all claims for the rental of hire of appliances and equipment employed, said claims having been filed with the Owner in accordance with State laws, and all subsequent amendments thereto, the Owner may make such settlements and apply thereto any monies retained under the Contract. if the monies retained under the Contract are insufficient to pay the sums due under the claims for labor, materials, and rental of appliances and equipment filed as aforesaid, the Owner may pay the same, at its discretion, and the Contractor shall repay to the Owner all sums so paid.

The Owner, with the written consent of the Contractor, may also use any monies retained, due, or to become due under the Contract for the purpose of paying for labor, materials, and rental of appliances and equipment for the Work, for which claims have not been filed as specified above.

It is understood that the security required by applicable State laws, as amended is obtained by the Bond accompanying the Contract. No monies retained under the other provisions of this article shall be held to be statutory security for the payment of claims filed in accordance with the provisions of applicable State law, as amended for which security is provided by bond.

**70-14 RELEASE FROM CLAIM AND LIABILITY TO CONTRACTOR.** No person or corporation, other than the signer of the Contract as Contractor, now has any interest hereunder, and no claim shall be made or be valid, and neither the Owner nor any member, agent, or employee thereof, shall be liable for, or be held to pay any money as provided in the Contract.

All claims of the Contractor for damages on account of any act of omission or commission by the Owner or its agents must be submitted in writing to the Engineer within one (1) week (seven calendar days) after the sustaining of any alleged damage by the Contractor on account of such act. The Contractor's written statement of claim shall describe (1) the act of omission or commission by the Owner or its agent that allegedly caused damage to the Contractor, and (2) the nature of the claimed damage. On or before the fifteenth (15th) day of the month succeeding that in which such damage was allegedly sustained, the Contractor shall file with the Engineer a detailed written statement or breakdown showing the various items of claimed damage and the amounts thereof. Submission of the above statement of claim and detailed statement or breakdown within the time periods stated above shall be a condition precedent to the allowance of any such claim for damages by the Contractor. The determination of the Engineer shall be final upon all questions as to the fact, cause and extent of such damage.

Since the prospect of a claim for damages might materially alter the plans, scheduling and other actions of the Owner, and since, with sufficient opportunity, the Owner might, if it know of the Contractor's claim for damages, attempt to mitigate or eliminate the effect of the act objected to by the Contractor, and since merely oral notice might lead to disputes as to the existence or substance thereof and notice long after the event would seriously hinder, if not prevent, the Owner's investigation of the pertinent facts, the Contractor's submission of such statement of claim and detailed statement or breakdown with the time periods stated above shall be of the essence of the Contractor's obligations and failure of the Contractor to comply with

these requirements shall be a conclusive waiver of any such claim for damages by the Contractor. The Engineer shall have no authority to modify or waive, expressly or by implication, the above requirements as to submission of such statement of claim and detailed statement or breakdown within the time period stated, and any action or statements by the Engineer to such effect shall not be binding upon the Owner.

The acceptance by the Contractor of the last payment shall operate as and shall be a release to the Owner and every member, agent, and employee thereof, from all claim and liability to the Contractor for anything done or furnished for, or relating to, the Work, or for any act or neglect of the Owner or of any person relating to or affecting the Work, except the claim against the Owner for the remainder, if any there be, of the amounts kept or retained. No payment, however, final or otherwise, shall operate to release the Contractor or his sureties from any obligations under this Contract or the Performance Bond.

**70-15 OPENING SECTIONS OF THE WORK TO TRAFFIC.** At the option of the Owner, certain portions of the Work may be opened for such use as the Owner may desire. In such cases, the completed portion will be inspected, tentatively accepted in writing, and turned over to the Owner for maintenance. Such action shall not in any way be construed as final acceptance of the Work or any part of it, or as a waiver of any of the provisions of these Specifications or the Contract. Upon written authorization by the Engineer, the Contractor may open the work and cease to maintain barricades and red lights, and the Contractor may be relieved from further maintenance of barriers and lights on that portion of the Work.

In the event the Contractor, upon written authorization from the Engineer, opens up a portion of the Work in advance of completion or in advance of turning the portion over the Owner for maintenance, either for the convenience of the public, or during suspension of the Work, the Contractor shall restore any part of the work which might be disturbed or damaged because of such opening and use, and the restoration will be done at the respective Contract unit prices for the items involved or on the basis of a predetermined arrangement entered into by the Contractor and the Owner.

Completed portions of the Work shall be maintained by the Contractor in an acceptable manner until final acceptance of the Contract. S/He shall not permit hauling or other traffic over or use of any portion of the Work unless so authorized in writing by the Engineer.

Should it be necessary for the Contractor to complete portions of the contract work for the beneficial occupancy of the Owner prior to completion of the entire contract, such "phasing" of the work shall be specified herein and indicated on the plans. When so specified, the Contractor shall complete such portions of the work on or before the date specified or as otherwise specified. The Contractor shall make his/her own estimate of the difficulties involved in arranging his/her work to permit such beneficial occupancy by the Owner as described below:

Phase or Description  
Required Date or Sequence of Owner's Beneficial Occupancy  
Work Shown on Plan Sheet

Upon completion of any portion of the work listed above, such portion shall be accepted by the Owner in accordance with the subsection titled PARTIAL ACCEPTANCE of Section 50.

No portion of the work may be opened by the Contractor for public use until ordered by the Engineer in writing. Should it become necessary to open a portion of the work to public traffic on a temporary or intermittent basis, such openings shall be made when, in the opinion of the Engineer, such portion of the work is in an acceptable condition to support the intended traffic. Temporary or intermittent openings are considered to be inherent in the work and shall not constitute either acceptance of the portion of the work so opened or a waiver of any provision of the contract. Any damage to the portion of the work so opened that is

not attributable to traffic which is permitted by the Owner shall be repaired by the Contractor at his/her expense.

The Contractor shall make his/her own estimate of the inherent difficulties involved in completing the work under the conditions herein described and shall not claim any added compensation by reason of delay or increased cost due to opening a portion of the contract work.

**70-16 CONTRACTOR'S RESPONSIBILITY FOR WORK.** Until the Engineer's final written acceptance of the entire completed work, excepting only those portions of the work accepted in accordance with the subsection titled **PARTIAL ACCEPTANCE** of Section 50, the Contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part due to the action of the elements or from any other cause, whether arising from the execution or from the nonexecution of the work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense thereof except damage to the work due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God such as earthquake, tidal wave, tornado, hurricane or other cataclysmic phenomenon of nature, or acts of the public enemy or of government authorities.

If the work is suspended for any cause whatever, the Contractor shall be responsible for the work and shall take such precautions necessary to prevent damage to the work. The Contractor shall provide for normal drainage and shall erect necessary temporary structures, signs, or other facilities at his/her expense. During such period of suspension of work, the Contractor shall properly and continuously maintain in an acceptable growing condition all living material in newly established planting, seedings, and soddings furnished under his/her contract, and shall take adequate precautions to protect new tree growth and other important vegetative growth against injury.

The Contractor shall protect the materials and work from weather deterioration and damage during construction and shall store and secure inflammable material from fire, and during cold weather furnish all heat necessary for the proper conduct of the work. He shall provide and maintain all temporary walkways, roadways, trench covers, barricades, colored lights, danger signals and other devices necessary to provide for safety and traffic.

The Contractor shall take all reasonable steps to prevent injury to persons (including employees) and property in performance of this Contract including all steps and actions required under the safety provisions of applicable laws and applicable building construction codes. The contractor shall further be required to guard all machinery, equipment and explosives and to eliminate all hazards in accordance with the safety provisions of the latest edition of the *Manual of Accident Prevention in Construction* published by the Associated General Contractors of America.

The Contractor shall bear all losses resulting to him/her on account of the amount or the character of the Work or because the nature of the land in or on which the Work is done is different from what was estimated or expected, or on account of the weather elements, or other causes.

The Contractor shall rebuild, repair, restore, and make good at his/her own expense, all injuries or damages to any portion of the Work before the completion and acceptance of the Work.

Issuance of an estimate on any part of the work done shall not be construed as final acceptance of any work completed up to that time.



The Contractor shall reimburse the Owner for all expenses, losses, or damages, as determined by the Engineer, incurred by or in consequence of any defect, act, omission, or mistake of the Contractor or any Subcontractor.

The Contractor will be held responsible for any and all claims for damage to underground structures such as water or gas mains, pipes, conduits, manholes, or catch basins, due to his/her operation or to the operations of any of his Subcontractors.

The Contractor shall not discontinue the service of water, electricity, steam, gas or any other utility, without first obtaining the approval in writing of the Engineer and the director or manager of the facility where the work is being performed, and the Contractor shall cause the resumption of said service immediately when service has been resumed. Approval of the Engineer and director or manager shall not be necessary in case of an emergency, but the Contractor shall notify them of any discontinuance and resumption of service.

The Contractor shall comply with all Federal, State and local laws and regulations controlling pollution of the environment. He shall take necessary precautions to prevent pollution of streams, lakes, ponds, and reservoirs with fuels, oils, bitumens, chemicals, or other harmful materials and to prevent pollution of the atmosphere from particulate and gaseous matter.

Unless otherwise specifically provided for in the specifications, all workmanship, equipment, materials, and articles incorporated in the work covered by this Contract are to be of the most suitable grade of their representative kinds for their purpose.

The Contractor shall insert in each of his subcontracts all of the provisions of these Contract Articles.

**70-17 CONTRACTOR'S RESPONSIBILITY FOR UTILITY SERVICE AND FACILITIES OF OTHERS.** As provided in the subsection titled **RESTORATION OF SURFACES DISTURBED BY OTHERS** of this section, the Contractor shall cooperate with the Owner of any public or private utility service, FAA or NOAA, or a utility service of another government agency that may be authorized by the Owner to construct, reconstruct or maintain such utility services or facilities during the progress of the work. In addition, the Contractor shall control his/her operations to prevent the unscheduled interruption of such utility services and facilities.

To the extent that such public or private utility services, FAA, or NOAA facilities, or utility services of another governmental agency are known to exist within the limits of the contract work, the approximate locations have been indicated on the plans and the Owners are indicated as follows:

- The Federal Aviation Administration - Airways Facilities Branch
- Dig Safe

It is understood and agreed that the Owner does not guarantee the accuracy or the completeness of the location information relating to existing utility services, facilities, or structures that may be shown on the plans or encountered in the work. Any inaccuracy or omission in such information shall not relieve the Contractor of his/her responsibility to protect such existing features from damage or unscheduled interruption of service.

It is further understood and agreed that the Contractor shall, upon execution of the contract, notify the Owners of all utility services or other facilities of his/her plan of operations. Such notification shall be in writing addressed to THE PERSON TO CONTACT as provided hereinbefore in this subsection and the subsection titled **RESTORATION OF SURFACES DISTURBED BY OTHERS** of this section. A copy of each notification shall be given to the Engineer.

In addition to the general written notification hereinbefore provided, it shall be the responsibility of the Contractor to keep such individual Owners advised of changes in his/her plan of operations that would affect such Owners.

Prior to commencing the work in the general vicinity of an existing utility service or facility, the Contractor shall again notify each such Owner of his/her plan of operation. If, in the Contractor's opinion, the Owner's assistance is needed to locate the utility service or facility or the presence of a representative of the Owner is desirable to observe the work, such advice should be included in the notification. Such notification shall be given by the most expeditious means to reach the utility Owner's PERSON TO CONTACT no later than two normal business days prior to the Contractor's commencement of operations in such general vicinity. The Contractor shall furnish a written summary of the notification to the Engineer.

The Contractor's failure to give the two day's notice hereinabove provided shall be cause for the Engineer to suspend the Contractor's operations in the general vicinity of a utility service or facility.

Where the outside limits of an underground utility service have been located and staked on the ground, the Contractor shall be required to use excavation methods acceptable to the Engineer within 3 feet (90 cm) of such outside limits at such points as may be required to ensure protection from damage due to the Contractor's operations.

Should the Contractor damage or interrupt the operation of a utility service or facility by accident or otherwise, he shall immediately notify the proper authority and the Engineer and shall take all reasonable measures to prevent further damage or interruption of service. The Contractor, in such events, shall cooperate with the utility service or facility Owner and the Engineer continuously until such damage has been repaired and service restored to the satisfaction of the utility or facility Owner.

The Contractor shall bear all costs of damage and restoration of service to any utility service or facility due to his/her operations whether or not due to negligence or accident. The contract Owner reserves the right to deduct such costs from any monies due or which may become due the Contractor, or his/her surety.

**70-18 FURNISHING RIGHTS-OF-WAY.** The Owner will be responsible for furnishing all rights-of-way upon which the work is to be constructed in advance of the Contractor's operations.

**70-19 PERSONAL LIABILITY OF PUBLIC OFFICIALS.** In carrying out any of the contract provisions or in exercising any power or authority granted to him by this contract, there shall be no liability upon the Engineer, his/her authorized representatives, or any officials of the Owner either personally or as an official of the Owner. It is understood that in such matters they act solely as agents and representatives of the Owner.

**70-20 NO WAIVER OF LEGAL RIGHTS.** Neither the inspection by the Owner, the Engineer, nor any of their employees or agents, nor any order, measurement, or certificate by the Engineer, nor any order by the Owner for the payment of money, nor any payment for or acceptance of the whole or any part of the Work by the Engineer or Owner, nor any extension of time, nor any possession taken by the Owner or its employees, shall operate as a waiver of any provision of the Contract, or of any power herein reserved to the Owner or any right to damages herein provided; nor shall any waiver of any breach of the Contract be held to be a waiver of any other of subsequent breach. Any remedy provided in the Contract shall be taken and construed as cumulative, that is, in addition to each and every other remedy herein provided, and the Owner shall also be entitled as of right to a writ of injunction against any breach of any of the provisions of the Contract.

Upon completion of the work, the Owner will expeditiously make final inspection and notify the Contractor of final acceptance. Such final acceptance, however, shall not preclude or estop the Owner from correcting

any measurement, estimate, or certificate made before or after completion of the work, nor shall the Owner be precluded or estopped from recovering from the Contractor or his/her surety, or both, such overpayment as may be sustained, or by failure on the part of the Contractor to fulfill his/her obligations under the contract. A waiver on the part of the Owner of any breach of any part of the contract shall not be held to be a waiver of any other or subsequent breach.

The Contractor, without prejudice to the terms of the contract, shall be liable to the Owner for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the Owner's rights under any warranty or guaranty.

**70-21 ENVIRONMENTAL PROTECTION.** The Contractor shall comply with all Federal, state, and local laws and regulations controlling pollution of the environment. He shall take necessary precautions to prevent pollution of streams, lakes, ponds, and reservoirs with fuels, oils, bitumens, chemicals, or other harmful materials and to prevent pollution of the atmosphere from particulate and gaseous matter.

The Contractor shall take all such precautions in the conduct of his operations as may be necessary to avoid contaminating water in adjacent water courses or water storage areas whether natural or man-made. All earthwork, moving of equipment, water control of excavations, and other operations likely to create silting, shall be conducted so as to minimize pollution of water courses or water storage areas. Water used during the Contract work which has become contaminated with oil, bitumen, harmful or objectionably chemicals, sewage, or other pollutants shall be discharged so as to avoid affecting nearby waters. Under no circumstances shall the Contractor discharge pollutants directly into any water course or water storage area. When water from adjacent natural sources is used in the Contract work, intake methods shall be such as to avoid contaminating the source of supply.

**70-22 ARCHAEOLOGICAL AND HISTORICAL FINDINGS.** Unless otherwise specified in this subsection, the Contractor is advised that the site of the work is not within any property, district, or site, and does not contain any building, structure, or object listed in the current National Register of Historic Places published by the United States Department of Interior.

Should the Contractor encounter, during his/her operations, any building, part of a building, structure, or object which is incongruous with its surroundings, he shall immediately cease operations in that location and notify the Engineer. The Engineer will immediately investigate the Contractor's finding and will direct the Contractor to either resume his/her operations or to suspend operations as directed.

Should the Engineer order suspension of the Contractor's operations in order to protect an archaeological or historical finding, or order the Contractor to perform extra work, such shall be covered by an appropriate contract modification (change order or supplemental agreement) as provided in the subsection titled EXTRA WORK of Section 40 and the subsection titled PAYMENT FOR EXTRA WORK AND FORCE ACCOUNT WORK of Section 90. If appropriate, the contract modification shall include an extension of contract time in accordance with the subsection titled DETERMINATION AND EXTENSION OF CONTRACT TIME of Section 80.

**70-23 PERMITS AND CODES.** The Contractor shall give all notices and comply with all applicable laws, ordinances, codes, rules, and regulations. The intent of this Contract is that the Contractor shall base his bid upon the specifications, but that all work shall comply with all applicable codes and regulations. Before performing the work, the Contractor shall examine the specifications for compliance with applicable codes and regulations bearing on the work, and shall immediately report any discrepancy to the Owner. Where the requirements of the specifications fail to comply with the applicable code or regulation, the Commission shall adjust, by change order to the Contractor, the specifications to conform to the code or regulation (unless waivers in writing covering the differences have been granted by the cognizant governmental unit) and shall

make appropriate adjustment in the contract price. Should the Contractor fail to observe the foregoing provisions and perform work at variance with any applicable code or regulation (notwithstanding the fact that such performance is in compliance with the technical specifications), the Contractor shall remedy such work without cost to the Owner, and a change order shall be issued to cover only the excess the Contractor would have been entitled to receive if the change had been made before the Contractor commenced work on the items involved.

**70-24 REPORTS, RECORDS AND DATA.** The Contractor shall submit to the Owner such schedule of quantities and costs, progress, schedules, payrolls, reports, estimates, records and other data as the Owner may request concerning work performed or to be performed under this Contract.

**70-25 OWNERSHIP OF SPECIFICATIONS.** Except the Contractor's executed set, all specifications are and remain the property of the Owner. The Owner shall furnish to the Contractor without charge, two (2) sets of specifications. Additional sets will be furnished upon request, at a cost to be determined by the Owner. Such specifications are not to be used on other work, and those sets in usable condition shall be returned to the Owner at the completion or cessation of the work, or the termination of the Contract.

**70-26 INDEMNIFICATION.** The Contractor agrees that he will indemnify and save the Owner harmless from all claims growing out of the lawful demands of Subcontractors, laborers, workmen, mechanics, materialmen, and furnishers of machinery and parts thereof, equipment power tools and all supplies incurred in the furtherance of the performance of this Contract. The Contractor shall, at the Owner's request, furnish satisfactory evidence that all obligations of the nature hereinabove designated have been paid, discharged, or waived. If the Contractor fail to do so, then the Owner may, after having served written notice on the said Contractor, either pay unpaid bills, of which the Owner has written notice, direct, or withhold from the Contractor's unpaid compensation a sum of money deemed reasonable sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the Contractor shall be resumed, in accordance with the terms of this Contract, but in no event shall the provisions of this sentence be construed to impose any obligations upon the Owner by either Contractor or his Surety.

**70-27 OFFICIALS NOT TO BENEFIT.** No official of the Owner or the Federal Government or State Government who is authorized in such capacity and on behalf of the Owner to negotiate, make, accept, or approve, or to take part in negotiating, making, accepting, or approving any architectural, engineering, inspection, construction or material supply contract or any subcontract in connection with the construction of the project, shall become directly or indirectly interested personally in this Contract or any part hereof. No officer, employee, architect, attorney, engineer or inspector of or for the Owner who is authorized in such capacity and on behalf of the Owner to exercise any legislative, executive, supervisory or other similar functions in connection with the construction of this project, shall become directly or indirectly interested personally in this Contract or any part thereof, any material supply contract, subcontract, insurance contract, or any other contract pertaining to the project.

**70-28 NO WAIVER BY PUBLIC AGENCY.** The failure of the Public Agency in any one or more instances to insist upon strict performance of any of the terms of this Contract or to exercise any option herein conferred shall not be construed as a waiver or relinquishment to any extent of the right to assert or rely upon any such terms or option on any future occasion.

**70-29 LABOR HARMONY.** The Contractor certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work. All contracts for work under project grants for airport development approved under this title which involve labor shall contain such provisions as are necessary to ensure that, in the employment of labor (except in executive, administrative, and supervisory positions), preference shall be given to veterans of the Vietnam era and disabled veterans.

However, this preference shall apply only where the individuals are available and qualified to perform the work to which the employment relates. For the purposes of this subsection --

- a. a Vietnam-era veteran is an individual who served on active duty as defined by section 101(21) of Title 38 of the United States Code in the Armed Forces for a period of more than 180 consecutive days any part of which occurred during the period beginning August 5, 1964, and ending May 7, 1975, and who was separated from the Armed Forces under honorable conditions; and
- b. a disabled veteran is an individual described in section 2108(2) of Title 5 of the United States Code.

#### 70-30 TEMPORARY FACILITIES.

- a. General. All temporary facilities required by the Contractor (or his Subcontractors) shall be furnished by him (or them) and shall meet all State and/or local requirements and code for such temporary facilities. All temporary facilities shall be entirely removed upon completion of the work, and the sites shall be left in a satisfactory condition. Temporary facilities shall be provided and maintained so as not to create fire, safety, health or other hazard. The location of any such facilities shall be only as approved by the Engineer and/or the Owner.
- b. Drinking Water. The Contractor shall provide drinking water for all personnel working on the project.
- c. Water for Construction. Water required for construction shall be provided by the Contractor. The Contractor shall acquire all necessary permits, place deposits, and pay any fees required for the utilization of the municipal water system. All necessary precautions shall be exercised so as not to contaminate the municipality's water system, if water is taken from the system.
- d. Sanitary Facilities. The Contractor shall provide temporary sanitary facilities at the work site for the use of all personnel working on the project. The facilities provided shall be acceptable to the Engineer insofar as number, type and locations.
- e. Electricity. The Contractor shall provide electrical power required for construction operations by means of portable generating equipment except where use of existing electric service at the work site can be made in a manner acceptable to the Owner and the Engineer. The Owner shall not be obligated in any way to make electrical power available.
- f. Temporary Buildings. Any temporary buildings required by the Contractor and his Subcontractors for field offices and such other temporary housing as needed, shall be provided by each for his own use unless arrangements are made for sharing facilities. The Contractor shall coordinate the use and placing of temporary buildings. The location and type of temporary buildings shall be subject to the approval of the Owner and the Engineer.
- g. Available Space. Space will be made available at the site for the temporary field offices of the Contractor (and his Subcontractors) and for storage of construction equipment and materials. The Contractor (and his Subcontractors) shall provide all necessary temporary fencing and make arrangements with the Engineer for space for his own needs and the needs of his Subcontractors.

## 70-31 SAFETY.

- a. General. Attention shall be directed to the requirements that the Contractor comply with all pertinent provisions of the "Manual of Accident Prevention in Construction" issued by the Associated General Contractors of America, Inc.
- b. Specific Safety Requirements. The following are specific safety requirements which must be observed at all times during the life of this contract:
  - (1) The wearing of non-conducting, hard, safety hats on the job is mandatory. The Contractor shall be responsible for and shall enforce the wearing of such safety hats by his personnel and the personnel of his Subcontractors. The Contractor shall keep at least five (5) safety hats at the work site for use by the Engineer and others inspecting or visiting the work site.
  - (2) All employees must wear approved safety shoes unless special shoes for the types of work are required.
  - (3) All tools and devices that require electric power shall be properly grounded.
  - (4) Safety glasses shall be worn by all workmen when performing operations hazardous to the eyes, and all welders shall be provided with suitable welding masks acceptable to the Engineer.
  - (5) If any blasting for rock ledge or large boulder removal is required for the Contract work and is allowed by the proper authorities and the Owner, all blasting and handling of explosives shall be done in accordance with all applicable safety regulations and ordinances concerning such work and shall be done in a manner so as to provide for the safety of all persons and so as not to damage property.
  - (6) All open trenches, excavations, etc. shall be kept well marked, barricaded and/or covered as required for the safety of persons, aircraft or vehicles on the site. Such excavations shall not be left open at night, on weekends, or during other periods when active construction is not being performed unless covered or otherwise protected to the complete satisfaction of the Engineer and the Owner.
- c. Additional Safety Provisions.
  - (1) The Contractor (and his Subcontractors) shall, at all times, exercise reasonable precautions for the safety of all persons. All rules, regulations, and laws concerning safety that are in effect at the work site, and in particular, all applicable regulations of the Occupational Safety and Health Administration (OSHA) of the U.S. Government, in addition to all the requirements of these specifications, shall be complied with in all respects.
  - (2) The Contractor shall provide adequate equipment and facilities as are necessary and required for first aid service to any person who may be injured in the prosecution of the work under this Contract whether they are his own personnel, his Subcontractor's personnel, the Owner's representative, the Engineer, or other persons who may for any reason enter within the limits of the Contract work. Also, the Contractor shall have standing arrangements for or have effective written procedure on site, to care and for removal and hospital treatment of any

person who may be injured. Such equipment or facilities and arrangements shall be satisfactory to the Engineer.

- (3) The Contractor shall provide fences, watchmen, maintain warning and safety devices and lights, and take over such precautions as may be required from time to time throughout the Contract work to protect life and property.

- d. Insufficiency of Safety Precautions. If, at any time, in the sole judgement of the Owner and/or the Engineer, the work is not properly lighted, barricaded or in any other respects safe in regard to public travel, persons on or about the work, or public or private property, the Owner and/or the Engineer shall have the right to order such safeguards to be erected and such precautions to be taken as he deems advisable, and the Contractor shall comply promptly with such orders. If, under such circumstances, the Contractor does not or cannot immediately put the work and the safeguards into proper and approved condition or if the Contractor or his representative is not upon the site to that he can be notified immediately of the insufficiency of safety precautions, the Engineer may put the work into such a condition that it shall be, in his opinion, in all respects safe. The Contractor shall pay all costs and expenses incurred by the Engineer or Owner in so doing. Such action of the Engineer or Owner, or their failure to take such action, shall in no way relieve or diminish the responsibility of the Contractor for any and all costs, expenses, losses, liability, suits, proceedings, judgements, awards or damages resulting from, by reason of or in connection with any failure to take safety precautions or the insufficiency of the safety precautions taken by him or by the Owner and/or Engineer acting under authority of this paragraph.

70-32 FIRE PREVENTION. All operations in connection with the Contract work shall be so performed that no fire hazards are needlessly created or permitted to exist. If the Contract work involves a fire hazard, sufficient fire fighting equipment with trained, capable operators shall be in the area to contain any fire until the local fire department is able to arrive. Particular care shall be exercised with regard to the disposition of waste materials, the nature or quality of which might create or increase a fire hazard. The Contractor shall make sure that persons employed directly or indirectly by him while working in connection with this Contract comply with any fire prevention regulations of the Owner. The Contractor shall also have a procedure for promptly notifying the local fire fighting organization in case of fire. The Contractor shall be responsible for compliance by personnel of his organization for their cooperation in fire prevention, fire reporting, and protective measures to minimize loss.

70-33 LABOR RECORDS. The Contractor and all his/her Subcontractors shall keep true and accurate registers of all mechanics, teamster, chauffeurs, and laborers employed thereon, showing the name, address, and occupational classification of each employee on the Work, the hours worked by, and the wages paid to each such employee, and shall furnish each week to the Engineer a true statement of the same covering the previous week.

#### **END OF SECTION 70**

## **SECTION 80**

### **PROSECUTION AND PROGRESS**

**80-01 SUBLETTING OF CONTRACT.** The Owner will not recognize any subcontractor on the work. The Contractor shall at all times when work is in progress be represented either in person, by a qualified superintendent, or by other designated, qualified representative who is duly authorized to receive and execute orders of the Engineer.

Should the Contractor elect to assign his/her contract, said assignment shall be concurred in by the surety, shall be presented for the consideration and approval of the Owner, and shall be consummated only on the written approval of the Owner. In case of approval, the Contractor shall file copies of all subcontracts with the Engineer.

The Contractor shall give his/her personal attention constantly to the faithful prosecution of the Work, shall keep the same under his personal control, and shall not assign by power of attorney or otherwise, or sublet, the Work or any part thereof without the previous written consent of the Owner and shall not, either legally or equitably, assign any of the monies payable under this Agreement, or his/her claim thereto, unless by and with the like consent of the Owner. The Contractor's failure to obtain the previous written consent of the Owner shall constitute a waiver of payment for the Work or any part thereof that may be furnished without such previous written consent.

The Owner shall reserve the right to approve or disapprove any Subcontractor without prior written approval of the Owner, which approval will not be given until the Contractor submits to the Owner a written statement concerning the proposed award to the Subcontractor, which statement will contain such information as the Owner may require.

The Contractor shall be fully responsible to the Owner for the acts and omissions of his Subcontractors, and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him.

The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind Subcontractors to the Contractor by the terms of the General Conditions and other contract documents insofar as applicable to the work of Subcontractors and to give the Contractor the same power as regards terminating any subcontract that the Owner may exercise over the Contractor under any provision of the contract documents.

Nothing contained in this Contract shall create any contractual relation between any Subcontractor and the Owner.

**80-02 NOTICE TO PROCEED.** The notice to proceed shall state the date on which it is expected the Contractor will begin the construction and from which date contract time will be charged. The Contractor shall begin the work to be performed under the contract within 10 days of the date set by the Engineer in the written notice to proceed, but in any event, the Contractor shall notify the Engineer at least 24 hours in advance of the time actual construction operations will begin.

It is hereby understood and mutually agreed, by and between the Contractor and the Owner, that the date of beginning and the time for completion, as specified in the contract of the work to be done hereunder, are ESSENTIAL CONDITIONS of this Contract; and it is further mutually understood and agreed that the work embraced in this Contract shall be commenced by the date specified in the Notice to Proceed.



80-03 PROSECUTION AND PROGRESS. Unless otherwise specified, the Contractor shall submit his/her progress schedule for the Engineer's approval within 10 days after the effective date of the notice to proceed. The Contractor shall prepare and submit to the Engineer for approval the following:

- a. A practicable and feasible schedule, on a bar-chart form to be furnished by the Owner, showing the order in which the Contractor proposes to carry on the salient components of the Work, the dollar value of each respective component of the work, the dates on which s/he will start each, and the contemplated dates for completing the same, and a projection of each month's pay requisition, such schedule to be prepared in a manner prescribed by the Engineer based on money values of the various items of Work; and
- b. A written chronological statement of the order in which the Contractor proposes to perform the salient components of the Work, indicating in detail the date of starting work on each component and the contemplated completion date for each.
- c. The Contractor will be required to submit weekly updates to the progress schedule to keep all parties informed as to the project's status.

The Contractor's progress schedule, when approved by the Engineer, may be used to establish major construction operations and to check on the progress of the work. The Contractor shall provide sufficient materials, equipment, and labor to guarantee the completion of the project in accordance with the plans and specifications within the time set forth in the proposal.

No physical construction work shall be performed on the Work site until the above schedule and statement have been submitted in proper form and have been approved by the Engineer, and the Owner shall not be liable for any delays or increased costs to the Contractor resulting from the Contractor's failure to meet this requirement. Prompt review will be made of any proposed schedule and chronological statement submitted by the Contractor. Prior to the Engineer's approval thereof, the Contractor may commence all aspects of the Work other than physical construction work at the site, including but not limited to the placing of material order, preparation of shop drawings, making of field survey layouts, assembly of equipment, and other work in preparation for the commencement of physical construction at the site.

The Contractor agrees that said work shall be prosecuted regularly, diligently, and uninterruptedly at such rate of progress as will ensure full completion thereof within the time specified. It is expressly understood and agreed, by and between the Contractor and the Owner, that the time for the completion of the work described herein is a reasonable time for completion of the same, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

If the Contractor falls significantly behind the submitted schedule, the Contractor shall, upon the Engineer's request, submit a revised schedule for completion of the work within the contract time and modify his/her operations to provide such additional materials, equipment, and labor necessary to meet the revised schedule. Should the prosecution of the work be discontinued for any reason, the Contractor shall notify the Engineer at least 24 hours in advance of resuming operations.

If, in the opinion of the Engineer, the Contractor's operations have been or will be materially affected by changes in the Plans or in the amount of Work, or if the Contractor's performance has materially failed to conform to the approved schedule and chronological statement, the Contractor shall, upon request by the Engineer, submit to the Engineer within ten (10) days after such request, for his/her approval, a revised schedule and chronological statement of the types specified above, which shall indicate how the Contractor proposes to prosecute the balance of the Work.

Approval of any such schedule or chronological statement by the Engineer shall not be construed as releasing the Contractor from any of its responsibilities or obligations under the Contract. Such approval shall be a condition precedent to the processing and payment of any monthly pay estimate. When required by the General Specifications, the scheduling of the Work shall be by the Critical Path Method at the expense of the Contractor.

For AIP contracts, the Contractor shall not commence any actual construction prior to the date on which the notice to proceed is issued by the Owner.

It is the purpose of the Owner to complete the Work in the shortest time possible and consistent with approved construction. To this end, Contractors will be required to use improved methods and equipment for doing the Work and various parts thereof. All equipment shall be complete and well designed, and the organization shall be efficient and effective.

If, in the opinion of the Engineer, it is necessary at any time, the Contractor shall when directed, employ such forces and equipment for one or more additional shifts as will be required to ensure the proper completion of the Work. the Contractor shall provide and maintain, including power and fuel, sufficient lights for the safety of his/her construction forces and to ensure the proper construction, inspection, and prosecution of the Work, in addition to any lights necessary to protect the Work or the traveling public. The Contractor shall not receive any compensation therefor in addition to the Contract prices.

**80-04 DELAY IN COMMENCING WORK.** The Owner may delay the commencement of the Work, or any part thereof, if the Owner shall deem it best for its interests to do so. The Contractor shall have no claim for damages on account of such delay, but shall be entitled to an equivalent extension of time in calendar days in which to complete the whole or any portion of the Work required under the Contract.

**80-05 LIMITATION OF OPERATIONS.** The Contractor shall control his/her operations and the operations of his/her subcontractors and all suppliers so as to provide for the free and unobstructed movement of aircraft in the AIR OPERATIONS AREAS of the airport.

When the work requires the Contractor to conduct his/her operations within an AIR OPERATIONS AREA of the airport, the work shall be coordinated with airport management (through the Engineer) at least 48 hours prior to commencement of such work. The Contractor shall not close an AIR OPERATIONS AREA until so authorized by the Engineer and until the necessary temporary marking and associated lighting is in place as provided in the subsection titled BARRICADES, WARNING SIGNS, AND HAZARD MARKINGS of Section 70.

When the contract work requires the Contractor to work within an AIR OPERATIONS AREA of the airport on an intermittent basis (intermittent opening and closing of the AIR OPERATIONS AREA), the Contractor shall maintain constant communications as hereinafter specified; immediately obey all instructions to vacate the AIR OPERATIONS AREA; immediately obey all instructions to resume work in such AIR OPERATIONS AREA. Failure to maintain the specified communications or to obey instructions shall be cause for suspension of the Contractor's operations in the AIR OPERATIONS AREA until the satisfactory conditions are provided. The following AIR OPERATIONS AREA (AOA) cannot be closed to operating aircraft to permit the Contractor's operations on a continuous basis and will therefore be closed to aircraft operations intermittently as follows:

AOA

TIME PERIODS AOA CAN BE CLOSED

TYPE OF COMMUNICATIONS REQUIRED WHEN WORKING IN AN AOA

## CONTROL AUTHORITY

**80-06 CHARACTER OF WORKERS, METHODS, AND EQUIPMENT.** The Contractor shall, at all times, employ sufficient labor and equipment for prosecuting the work to full completion in the manner and time required by the contract, plans, and specifications.

All workers shall have sufficient skill and experience to perform properly the work assigned to them. Workers engaged in special work or skilled work shall have sufficient experience in such work and in the operation of the equipment required to perform the work satisfactorily. The Contractor shall employ only competent persons to do the Work, and whenever the Engineer shall notify the Contractor in writing that any person on the Work is, in his/her opinion, incompetent, unfaithful, disorderly, or otherwise unsatisfactory, such person shall be discharged from the Work, and shall not again be employed on it except with the consent of the Engineer.

All equipment which is proposed to be used on the work shall be of sufficient size and in such mechanical condition as to meet requirements of the work and to produce a satisfactory quality of work. Equipment used on any portion of the work shall be such that no injury to previously completed work, adjacent property, or existing airport facilities will result from its use.

When the methods and equipment to be used by the Contractor in accomplishing the work are not prescribed in the contract, the Contractor is free to use any methods or equipment that will accomplish the work in conformity with the requirements of the contract, plans, and specifications.

When the contract specifies the use of certain methods and equipment, such methods and equipment shall be used unless others are authorized by the Engineer. If the Contractor desires to use a method or type of equipment other than specified in the contract, he may request authority from the Engineer to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed and of the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing work in conformity with contract requirements. If, after trial use of the substituted methods or equipment, the Engineer determines that the work produced does not meet contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining work with the specified methods and equipment. The Contractor shall remove any deficient work and replace it with work of specified quality, or take such other corrective action as the Engineer may direct. No change will be made in basis of payment for the contract items involved nor in contract time as a result of authorizing a change in methods or equipment under this subsection.

The Contractor shall submit each week to the Engineer, on a form approved by the Engineer, a listing of all equipment (other than small tools) used in or charged to the Work during the previous week, including equipment rented by the Contractor from others, which listing shall include the following information as to each piece of equipment:

- a. Identification thereof by the number assigned and by the firm name appearing on the equipment;
- b. Designation of the equipment's capacity and weight (and, when deemed applicable by the Engineer, such other information, e.g. size, number of wheels, etc., as may be helpful in defining the equipment's reasonable rental rate);
- c. Hours used on the Contract, and hours idle;
- d. Hours down for repairs or for maintenance;

- e. Whether it was rented from others or is owned by the Contractor or a Subcontractor, and, if rented, from whom.

**80-07 TEMPORARY SUSPENSION OF THE WORK.** The Engineer shall have the authority to suspend the work wholly, or in part, for such period or periods as he may deem necessary, due to unsuitable weather, or such other conditions as are considered unfavorable for the prosecution of the work, or for such time as is necessary due to the failure on the part of the Contractor to carry out orders given or perform any or all provisions of the contract. Upon receipt of written order from the Engineer, the Contractor shall immediately suspend the Work or such part thereof in accordance with the order. No work shall be suspended without the written permission of the Engineer. The Work shall be resumed when conditions so warrant or deficiencies have been corrected and the conditions of the Contract satisfied as ordered or approved in writing by the Engineer. No allowance of any kind will be made for suspension of work by order of the Engineer.

In the event that the Contractor is ordered by the Engineer, in writing, to suspend work for some unforeseen cause not otherwise provided for in the contract and over which the Contractor has no control, the Contractor may be reimbursed for actual money expended on the work during the period of shutdown. No allowance will be made for anticipated profits. The period of shutdown shall be computed from the effective date of the Engineer's order to suspend work to the effective date of the Engineer's order to resume the work. Claims for such compensation shall be filed with the Engineer within the time period stated in the Engineer's order to resume work. The Contractor shall submit with his/her claim information substantiating the amount shown on the claim. The Engineer will forward the Contractor's claim to the Owner for consideration in accordance with local laws or ordinances. No provision of this article shall be construed as entitling the Contractor to compensation for delays due to inclement weather, for suspensions made at the request of the Contractor, or for any other delay provided for in the contract, plans, or specifications.

If it should become necessary to suspend work for an indefinite period, the Contractor shall store all materials in such manner that they will not become an obstruction nor become damaged in any way. He shall take every precaution to prevent damage or deterioration of the work performed and provide for normal drainage of the work. If, in the opinion of the Owner, any work or materials shall have been damaged or injured by reason of failure on the part of the Contractor or any of his Subcontractors to so protect his work, such materials shall be removed and replaced at the expense of the Contractor. The Contractor shall erect temporary structures where necessary to provide for traffic on, to, or from the airport.

Should the Owner be prevented or enjoined from proceeding with work or from authorizing its prosecution either before or after its prosecution, by reason of any litigation or other causes whether such delays be avoidable or unavoidable, the Contractor shall not be entitled to make or assert claim for damage by reason of said delay, but time for completion of the work will be extended to such reasonable time as the Owner may determine will compensate for time lost by such delay with determination to be set forth in writing.

**80-08 DETERMINATION AND EXTENSION OF CONTRACT TIME.** It is an essential part of this Contract that the Contractor shall perform fully, entirely and in an acceptable manner the Work required within the time stated in this Contract. The number of calendar or working days allowed for completion of the work shall be stated in the proposal and contract and shall be known as the CONTRACT TIME.

If because of failure of the Owner to release to the Contractor any sections of the project within such time as will enable the Contractor to perform the Contract within the contract time, the Owner will grant to the Contractor such extension of time as the Owner in the discretion of said Owner shall determine to be fair and reasonable. In no event shall the Owner incur or be under any further or additional liability to the Contractor because of such failure to release.

The Contract period has been carefully considered and has been established for reasons of importance to the Owner. This time limit will be enforced and any prospective Bidder who is not willing to accept this Contract with the intention of complying with the time limit is cautioned not to submit a bid. No request for an extension of time that is based on any claim that the Contract period as originally established was inadequate will be considered.

Should the contract time require extension for reasons beyond the Contractor's control, it shall be adjusted as follows:

- a. **CONTRACT TIME** based on **WORKING DAYS** shall be calculated weekly by the Engineer. The Engineer will furnish the Contractor a copy of his/her weekly statement of the number of working days charged against the contract time during the week and the number of working days currently specified for completion of the contract (the original contract time plus the number of working days, if any, that have been included in approved **CHANGE ORDERS** or **SUPPLEMENTAL AGREEMENTS** covering **EXTRA WORK**).

The Engineer shall base his/her weekly statement of contract time charged on the following considerations:

- (1) No time shall be charged for days on which the Contractor is unable to proceed with the principal item of work under construction at the time for at least 6 hours with the normal work force employed on such principal item. Should the normal work force be on a double-shift, 12 hours shall be used. Should the normal work force be on a triple-shift, 18 hours shall apply. Conditions beyond the Contractor's control such as strikes, lockouts, unusual delays in transportation, temporary suspension of the principal item of work under construction or temporary suspension of the entire work which have been ordered by the Engineer for reasons not the fault of the Contractor, shall not be charged against the contract time.
- (2) The Engineer will not make charges against the contract time prior to the effective date of the notice to proceed.
- (3) The Engineer will begin charges against the contract time on the first working day after the effective date of the notice to proceed.
- (4) The Engineer will not make charges against the contract time after the date of final acceptance as defined in the subsection titled **FINAL ACCEPTANCE** of Section 50.
- (5) The Contractor will be allowed 1 week in which to file a written protest setting forth his/her objections to the Engineer's weekly statement. If no objection is filed within such specified time, the weekly statement shall be considered as acceptable to the Contractor.

The contract time (stated in the proposal) is based on the originally estimated quantities as described in the subsection titled **INTERPRETATION OF ESTIMATED PROPOSAL QUANTITIES** of Section 20. Should the satisfactory completion of the contract require performance of work in greater quantities than those estimated in the proposal, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in contract time shall not consider either the cost of work or the extension of contract time that has been covered by change order or supplemental agreement and shall be made at the time of final payment.

- b. CONTRACT TIME based on CALENDAR DAYS shall consist of the number of calendar days stated in the contract counting from the effective date of the notice to proceed and including all Saturdays, Sundays, holidays, and nonwork days. All calendar days elapsing between the effective dates of the Engineer's orders to suspend and resume all work, due to causes not the fault of the Contractor, shall be excluded.

At the time of final payment, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in the contract time shall not consider either cost of work or the extension of contract time that has been covered by a change order or supplemental agreement. Charges against the contract time will cease as of the date of final acceptance.

- c. When the contract time is a specified completion date, it shall be the date on which all contract work shall be substantially completed.

If the Contractor finds it impossible for reasons beyond his/her control to complete the work within the contract time as specified, or as extended in accordance with the provisions of this subsection, he may, at any time prior to the expiration of the contract time as extended, make a written request to the Engineer for an extension of time setting forth the reasons which he believes will justify the granting of his/her request. The Contractor's plea that insufficient time was specified is not a valid reason for extension of time. If the Engineer finds that the work was delayed because of conditions beyond the control and without the fault of the Contractor, he may extend the time for completion in such amount as the conditions justify. The extended time for completion shall then be in full force and effect, the same as though it were the original time for completion.

Variations in temperature and precipitation which are within normal limits for the particular month in question shall be conclusively deemed to have been anticipated before the opening of proposals on this Contract. Such normal limits shall be ascertained by reference to the official records of the United States Weather Bureau applicable to the particular locality for the previous three years.

Whenever the Contractor claims an extension of time stated in this Contract for completion of the Work, only the necessary delay caused to completion of the Work as a whole shall be considered in measuring or evaluating the extent of the delay. If, for example, extra work can be (or could have been) performed along with the regular work called for by the original specifications without causing necessary delay to such regular work, no claim for extension of the Contract completion time for the Work shall be granted. In any event, even though a cause of delay meets all of the above conditions, any extension shall be granted only to the extent that the effect of such cause cannot be (or could not have been) avoided or mitigated by the exercise of all reasonable precautions, efforts and measures (including planning, schedule and rescheduling), whether before or after the occurrence of the cause of delay. No extension shall be granted for a cause of delay which would not have affected the performance of the Contract were it not for the fault of the Contractor or for other delay for which the Contractor is not entitled to an extension of time.

The Contractor shall have no claim for damages on account of any delay on the part of the Owner in performing or furnishing any work and/or materials in connection with the execution of the work covered by the Contract.

Any reference in this Article to the Contractor shall be deemed to include Subcontractors and materialmen, whether or not in privity of the Contract with the Contractor, and employees and others performing any part of the Contract, and all the foregoing shall be considered agents of the Contractor.

**80-09 PROCEDURE FOR DETERMINING EXTENSIONS OF TIME.** The Contractor shall give written notice to the Engineer within forty-eight (48) hours after the time that s/he knows or should know of any cause which will result (or has resulted) in delay for which s/he claims an extension of time (including those causes with the Owner is responsible for or has knowledge of). Any such written notice shall (1) state that an extension is claimed; (2) identify the cause of delay, and (3) describe as fully as practicable at the time, the nature and expected duration of the delay and its effect on the various portions of the Work.

The submission of such written notice within the time period provided above shall be a condition precedent to any extension of time. The Engineer shall have no authority to modify or waive, expressly or by implication, such condition precedent, and any action or statements by the Engineer to such effect shall not be binding upon the Owner. Since the possible necessity for an extension of time might materially alter the scheduling, plans and other actions of the Owner, and since, with sufficient opportunity the Owner might (if it knew of the Contractor's claim) attempt to mitigate the effect of a delay for which an extension of time was to be claimed, and since merely oral notice might cause disputes as to the existence or substance thereof and notice long after the event would seriously hinder, if not prevent, the Owner's investigation of the pertinent facts, the giving of written notice within the time period stated above shall be of the essence of the Contractor's obligations and failure of the Contractor to comply with these requirements shall be a conclusive waiver of a claim for extension of time.

It shall in all cases be presumed that no extension or further extension of time is due unless the Contractor shall affirmatively demonstrate to the satisfaction of the Owner that it is. To this end, the Contractor shall maintain adequate records supporting any claim for an extension of time, and in the absence of such records the foregoing presumption shall be deemed conclusive.

After written notice has been given by the Contractor as provided above, the Engineer may, at such time as s/he deems appropriate, require the Contractor to submit to the Engineer and to the Owner, on or before a date specified in writing whatever records, data and explanation support, in the Contractor's view, his claim for extension of time. Within a reasonable time (to be determined by the Owner) after the date on which the Contractor submitted or should have submitted such records, data and explanation, the Owner shall in the exercise of his/her independent judgement render a decision in writing with respect to the Contractor's claim for extension of time. The decision shall include a statement as to the number of days, if any, by which the time stated in the Contract for completion of the Work (or for completion of a designated portion of the work) is extended.

The decision of the Owner shall be final and conclusive with respect to all questions relating to an extension of the time stated in the Contract for completion of the work ( or a designated portion thereof), including, in particular, (1) whether a claim by the Contractor for an extension of time should be granted, and (2) if so, the appropriate size of any such extension. The Owner may in his/her discretion, but need not, defer any such decision until after completion of the Work, but any such decision shall be made before payment of the final estimate by the Owner.

**80-10 FAILURE TO COMPLETE ON TIME.** For each calendar day or working day, as specified in the contract, that any work remains uncompleted after the contract time (including all extensions and adjustments as provided in the subsection titled DETERMINATION AND EXTENSION OF CONTRACT TIME of this Section) the sum specified in the contract and proposal as liquidated damages will be deducted from any money due or to become due the Contractor or his/her surety. Such deducted sums shall not be deducted as a penalty but shall be considered as liquidation of a reasonable portion of damages that will be incurred by the Owner should the Contractor fail to complete the work in the time provided in his/her contract.

Similarly, if the Contract Articles or General Specifications of the Contract state that a designated portion of the Work shall be completed by a specified date, and if such portion has not been completed by such date, the

Contractor shall pay to the Owner the sum specified in the General Specifications for each and every calendar day that s/her is in default in completing such portion of the work. Such monies shall also be paid as liquidated damages, not as a penalty, to partially cover losses and expenses to the Owner.

The Owner shall recover such liquidated damages by deducting the amounts thereof out of any monies due or that might become due the Contractor, and if such monies be insufficient to cover the liquidated damages, then the Contractor or the Surety shall pay the amount due.

Permitting the Contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a waiver on the part of the Owner of any of its rights under the contract.

**80-11 DEFAULT AND TERMINATION OF CONTRACT.** The Contractor shall be considered in default of his/her contract and such default will be considered as cause for the Owner to terminate the contract for any of the following reasons if the Contractor:

- a. Fails to begin the work under the contract within the time specified in the "Notice to Proceed", or
- b. Fails to perform the work or fails to provide sufficient workers, equipment or materials to assure completion of work in accordance with the terms of the contract, or
- c. Performs the work unsuitably or neglects or refuses to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable, or
- d. Discontinues the prosecution of the work, or
- e. Fails to resume work which has been discontinued within a reasonable time after notice to do so, or
- f. Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency, or
- g. Allows any final judgment to stand against him unsatisfied for a period of 10 days, or
- h. Makes an assignment for the benefit of creditors, or
- i. For any other cause whatsoever, fails to carry on the work in an acceptable manner.

Should the Engineer consider the Contractor in default of the contract for any reason hereinbefore, he shall immediately give written notice to the Contractor and the Contractor's surety as to the reasons for considering the Contractor in default and the Owner's intentions to terminate the contract.

If the Contractor or surety, within a period of 10 days after such notice, does not proceed in accordance therewith, then the Owner will, upon written notification from the Engineer of the facts of such delay, neglect, or default and the Contractor's failure to comply with such notice, have full power and authority without violating the contract, to take the prosecution of the work out of the hands of the Contractor. The Owner may appropriate or use any or all materials and equipment that have been mobilized for use in the work and are acceptable and may enter into an agreement for the completion of said contract according to the terms and provisions thereof, or use such other methods as in the opinion of the Engineer will be required for the completion of said contract in an acceptable manner.

All costs and charges incurred by the Owner, together with the cost of completing the work under contract, will be deducted from any monies due or which may become due the Contractor. If such expense exceeds the



sum which would have been payable under the contract, then the Contractor and the surety shall be liable and shall pay to the Owner the amount of such excess.

If at any time the Engineer shall certify that the rate of progress of the Work (or any designated part thereof) is not satisfactory, s/he may, upon the written request of the Owner, notify the Contractor in writing to increase the labor, equipment and materials, or any of them, employed on the Work (or such designated part), stating the minimum amount of increase required. Within five (5) calendar days after the date of such notice, the Contractor shall comply with the directions in such notice, and shall continue to comply therewith, making such arrangements as will result in full and efficient use of the labor, equipment and materials, as increased, until the completion of the work (or such designated part thereof) or until the Engineer, upon the Contractor's request in writing, certifies that the condition is as to rate of progress no longer require such increase. The Contractor shall not be entitled to additional compensation by reason of compliance with any such notice to increase given by the Engineer.

If (as determined by the Engineer) the Contractor fails to comply with the Engineer's above notice to increase labor, equipment and materials, or fails to continue to comply therewith,

- a. the Owner may so change the next and succeeding monthly pay estimates submitted by the Contractor as to eliminate payment for those items of Work as to which the Contractor has failed to comply with the Engineer's notice to increase, so that payment for such items will be deferred until payment of that monthly estimate occurring next after the time that the Contractor has, in the opinion of the Engineer, complied with such notice to increase, or, in the alternative,
- b. the Owner may employ and direct such additional laborers and equipment, and furnish and use such additional materials, as may in the opinion of the Engineer be necessary to achieve a satisfactory rate of progress or to ensure completion of the work (or such designated part thereof) within the time specified in the Contract, or at the earliest possible date thereafter. The expense of the foregoing may be charged to the Contractor by the Owner.

All expenses charged under this Article shall be deducted and paid by the Owner out of any monies then due or to become due the Contractor, under the Contract, or any part thereof; and in such accounting the Owner shall not be held to obtain the lowest figures for the work of completing the Contract or any part thereof, or for ensuring its proper completion, but all sums actually paid therefor shall be charged to the Contractor. In case the expenses so charged are less than the sum which would have been payable under the Contract if the same had been completed by the Contractor, the Contractor shall be entitled to receive the difference; and in case such expenses shall exceed the said sum, the Contractor shall pay the amount of the excess to the Owner upon completion of the Work, without further demand being made therefor.

The giving of any such notice to increase shall not prevent the Owner from giving the Contractor a subsequent notice to discontinue work under the provisions of the preceding portion of this Article.

When the Contract, or any portion thereof, is terminated before completion of all items of work in the Contract, payment will be made for the actual number of units or items of work completed at the contract price or as mutually agreed for items of work partially completed or not started. No claims or loss of anticipated profits shall be considered.

Reimbursement for organization of the work, and other overhead expenses, (when not otherwise included in the Contract) and moving equipment and materials to and from the job will be considered, the intent being that an equitable settlement will be made with the Contractor.

Acceptable materials, obtained or ordered by the Contractor for the work and that are not incorporated in the work shall, at the option of the Contractor, be purchased from the Contractor at actual cost as shown by receipted bills and actual cost records at such points of delivery as may be designated by the Engineer.

Termination of the Contract or a portion thereof shall neither relieve the Contractor of his responsibilities for the completed work nor shall it relieve his surety of its obligation for and concerning any just claim arising out of the work performed.

**80-12 TERMINATION FOR NATIONAL EMERGENCIES.** The Owner shall terminate the contract or portion thereof by written notice when the Contractor is prevented from proceeding with the construction contract as a direct result of an Executive Order of the President with respect to the prosecution of war or in the interest of national defense.

When the contract, or any portion thereof, is terminated before completion of all items of work in the contract, payment will be made for the actual number of units or items of work completed at the contract price or as mutually agreed for items of work partially completed or not started. No claims or loss of anticipated profits shall be considered.

Reimbursement for organization of the work, and other overhead expenses, (when not otherwise included in the contract) and moving equipment and materials to and from the job will be considered, the intent being that an equitable settlement will be made with the Contractor.

Acceptable materials, obtained or ordered by the Contractor for the work and that are not incorporated in the work shall, at the option of the Contractor, be purchased from the Contractor at actual cost as shown by receipted bills and actual cost records at such points of delivery as may be designated by the Engineer.

Termination of the contract or a portion thereof shall neither relieve the Contractor of his/her responsibilities for the completed work nor shall it relieve his/her surety of its obligation for and concerning any just claim arising out of the work performed.

**80-13 FULFILLMENT OF CONTRACT.** The contract will be considered fulfilled when all the work has been completed, and the final inspection acceptance has been made. The Contractor will then be released from further obligation except as may be required by law, by his surety, and by the general guarantee provided for herein by subsection entitled, GENERAL GUARANTY of Section 70.

**END OF SECTION 80**

## SECTION 90

### MEASUREMENT AND PAYMENT

90-01 MEASUREMENT OF QUANTITIES. All work completed under the contract will be measured by the Engineer, or his/her authorized representatives, using United States Customary Units of Measurement or the International System of Units.

The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the contract will be those methods generally recognized as conforming to good engineering practice.

Unless otherwise specified, longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual fixtures (or leave-outs) having an area of 9 square feet (0.8 square meter) or less. Unless otherwise specified, transverse measurements for area computations will be the neat dimensions shown on the plans or ordered in writing by the Engineer.

Structures will be measured according to neat lines shown on the plans or as altered to fit field conditions.

Unless otherwise specified, all contract items which are measured by the linear foot such as electrical ducts, conduits, pipe culverts, underdrains, and similar items shall be measured parallel to the base or foundation upon which such items are placed.

In computing volumes of excavation the average end area method or other acceptable methods will be used.

The thickness of plates and galvanized sheet used in the manufacture of corrugated metal pipe, metal plate pipe culverts and arches, and metal cribbing will be specified and measured in decimal fraction of inches.

The term "ton" will mean the short ton consisting of 2,000 pounds (907 kilograms) avoirdupois. All materials which are measured or proportioned by weights shall be weighed on accurate, approved scales by competent, qualified personnel at locations designed by the Engineer. If material is shipped by rail, the car weight may be accepted provided that only the actual weight of material be paid for. However, car weights will not be acceptable for material to be passed through mixing plants. Trucks used to haul material being paid for by weight shall be weighed empty daily at such times as the Engineer directs, and each truck shall bear a plainly legible identification mark.

Materials to be measured by volume in the hauling vehicle shall be hauled in approved vehicles and measured therein at the point of delivery. Vehicles for this purpose may be of any size or type acceptable to the Engineer, provided that the body is of such shape that the actual contents may be readily and accurately determined. All vehicles shall be loaded to at least their water level capacity, and all loads shall be leveled when the vehicles arrive at the point of delivery.

When requested by the Contractor and approved by the Engineer in writing, material specified to be measured by the cubic yard (cubic meter) may be weighed, and such weights will be converted to cubic yards (cubic meters) for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the Engineer and shall be agreed to by the Contractor before such method of measurement of pay quantities is used.

Bituminous materials will be measured by the gallon (liter) or ton (kilogram). When measured by volume, such volumes will be measured at 60°F (15°C) or will be corrected to the volume at 60°F (15°C) using ASTM D 1250 for asphalts or ASTM D 633 for tars.

Net certified scale weights or weights based on certified volumes in the case of rail shipments will be used as a basis of measurement, subject to correction when bituminous material has been lost from the car or the distributor, wasted, or otherwise not incorporated in the work.

When bituminous materials are shipped by truck or transport, net certified weights by volume, subject to correction for loss or foaming, may be used for computing quantities.

Cement will be measured by the ton (kilogram) or hundredweight (kilogram).

Timber will be measured by the thousand feet board measure (M.F.B.M.) actually incorporated in the structure. Measurement will be based on nominal widths and thicknesses and the extreme length of each piece.

The term “lump sum” when used as an item of payment will mean complete payment for the work described in the contract.

When a complete structure or structural unit (in effect, “lump sum” work) is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories.

Rental of equipment will be measured by time in hours of actual working time and necessary traveling time of the equipment within the limits of the work. Special equipment ordered by the Engineer in connection with force account work will be measured as agreed in the change order or supplemental agreement authorizing such force account work as provided in the subsection titled PAYMENT FOR EXTRA AND FORCE ACCOUNT WORK of this section.

When standard manufactured items are specified such as fence, wire, plates, rolled shapes, pipe conduit, etc., and these items are identified by gage, unit weight, section dimensions, etc., such identification will be considered to be nominal weights or dimensions. Unless more stringently controlled by tolerances in cited specifications, manufacturing tolerances established by the industries involved will be accepted.

Scales for weighing materials which are required to be proportioned or measured and paid for by weight shall be furnished, erected, and maintained by the Contractor, or be certified permanently installed commercial scales.

Scales shall be accurate within one-half percent of the correct weight throughout the range of use. The Contractor shall have the scales checked under the observation of the inspector before beginning work and at such other times as requested. The intervals shall be uniform in spacing throughout the graduated or marked length of the beam or dial and shall not exceed one-tenth of 1 percent of the nominal rated capacity of the scale, but not less than 1 pound (454 grams). The use of spring balances will not be permitted.

Beams, dials, platforms, and other scale equipment shall be so arranged that the operator and the inspector can safely and conveniently view them.

Scale installations shall have available ten standard 50-pound (2.3 kilogram) weights for testing the weighing equipment or suitable weights and devices for other approved equipment.

Scales must be tested for accuracy and serviced before use at a new site. Platform scales shall be installed and maintained with the platform level and rigid bulkheads at each end.

Scales “overweighing” (indicating more than correct weight) will not be permitted to operate, and all materials received subsequent to the last previous correct weighting-accuracy test will be reduced by the percentage of error in excess of one-half of 1 percent.

In the event inspection reveals the scales have been “underweighing” (indicating less than correct weight), they shall be adjusted, and no additional payment to the Contractor will be allowed for materials previously weighed and recorded.

All costs in connection with furnishing, installing, certifying, testing, and maintaining scales; for furnishing check weights and scale house; and for all other items specified in this subsection, for the weighing of materials for proportioning or payment, shall be included in the unit contract prices for the various items of the project.

When the estimated quantities for a specific portion of the work are designated as the pay quantities in the contract, they shall be the final quantities for which payment for such specific portion of the work will be made, unless the dimensions of said portions of the work shown on the plans are revised by the Engineer. If revised dimensions result in an increase or decrease in the quantities of such work, the final quantities for payment will be revised in the amount represented by the authorized changes in the dimensions.

**90-02 SCOPE OF PAYMENT.** The Contractor shall receive and accept compensation provided for in the contract as full payment for furnishing all materials, for performing all work under the contract in a complete and acceptable manner, and for all risk, loss, damage, or expense of whatever character arising out of the nature of the work or the prosecution thereof, subject to the provisions of the subsection titled NO WAIVER OF LEGAL RIGHTS of Section 70.

When the “basis of payment” subsection of a technical specification requires that the contract price (price bid) include compensation for certain work or material essential to the item, this same work or material will not also be measured for payment under any other contract item which may appear elsewhere in the contract, plans, or specifications.

The payment of any current estimate, or of any retained percentage, shall in no way constitute an acknowledgment of the acceptance of the Work or in no way or degree prejudice or affect the obligation of the Contractor, at his own cost and expense, to repair, correct, renew, or replace any defects and imperfections in the construction of, or in the strength of, or quality of materials used in or about the construction of the Work under Contract and its appurtenances, as well as all damages due or attributable to such defects, which defects, imperfections or damages shall have been discovered on or before the final inspection and acceptance of the Work. The Engineer shall be the sole judge of such defects, imperfections, or damages and the Contractor shall be liable to the Owner for failure to correct the same as provided herein.

**90-03 COMPENSATION FOR ALTERED QUANTITIES.** When the accepted quantities of work vary from the quantities in the proposal, the Contractor shall accept as payment in full, so far as contract items are concerned, payment at the original contract price for the accepted quantities of work actually completed and accepted. No allowance, except as provided for in the subsection titled ALTERATION OF WORK AND QUANTITIES of Section 40 will be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor which results directly from such alterations or indirectly from his/her unbalanced allocation of overhead and profit among the contract items, or from any other cause.

If, during the progress of the Work, the Contractor or the awarding authority discovers that the actual subsurface or latent physical conditions encountered at the site differ substantially or materially from those shown on the plans or indicated in the contract documents either the Contractor or the Owner may request an equitable adjustment in the contract price of the contract applying to work affected by the differing site conditions. A request for such an adjustment shall be in writing and shall be delivered by the party making such claim from a Contractor, or upon its own initiative, the contracting authority shall make an investigation of such physical conditions, and, if they differ substantially or materially from those shown on the plans or indicated in the contract documents or from those ordinarily encountered and generally recognized as inherent in work or a change in the construction methods required for the performance of the work which results in an increase or a decrease in the cost of the work, the Owner shall make an equitable adjustment in the contract price and the contract shall be modified in writing accordingly.

In the absence of unit prices, the Owner and the Contractor may agree upon an amount of payment to the Contractor or a credit to the Owner, whichever the case may be.

90-04 PAYMENT FOR OMITTED ITEMS. As specified in the subsection titled OMITTED ITEMS of Section 40, the Engineer shall have the right to omit from the work (order nonperformance) any contract item, except major contract items, in the best interest of the Owner.

Should the Engineer omit or order nonperformance of a contract item or portion of such item from the work, the Contractor shall accept payment in full at the contract prices for any work actually completed and acceptable prior to the Engineer's order to omit or nonperform such contract item.

Acceptable materials ordered by the Contractor or delivered on the work prior to the date of the Engineer's order will be paid for at the actual cost to the Contractor and shall thereupon become the property of the Owner.

In addition to the reimbursement hereinbefore provided, the Contractor shall be reimbursed for all actual costs incurred for the purpose of performing the omitted contract item prior to the date of the Engineer's order. Such additional costs incurred by the Contractor must be directly related to the deleted contract item and shall be supported by certified statements by the Contractor as to the nature the amount of such costs.

90-05 PAYMENT FOR EXTRA AND FORCE ACCOUNT WORK. Extra work, performed in accordance with the subsection titled EXTRA WORK of Section 40, will be paid for at the contract prices or agreed prices specified in the change order or supplemental agreement authorizing the extra work. When the change order or supplemental agreement authorizing the extra work requires that it be done by force account, such force account shall be measured and paid for based on expended labor, equipment, and materials plus a negotiated and agreed upon allowance for overhead and profit.

- a. Miscellaneous. No additional allowance will be made for general superintendence, the use of small tools, or other costs for which no specific allowance is herein provided.
- b. Comparison of Record. The Contractor and the Engineer shall compare records of the cost of force account work at the end of each day. Agreement shall be indicated by signature of the Contractor and the Engineer or their duly authorized representatives.
- c. Statement. No payment will be made for work performed on a force account basis until the Contractor has furnished the Engineer with duplicate itemized statements of the cost of such force account work detailed as follows:

- (1) Name, classification, date, daily hours, total hours, rate and extension for each laborer and foreman.
- (2) Designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment.
- (3) Quantities of materials, prices, and extensions.
- (4) Transportation of materials.
- (5) Cost of property damage, liability and workman's compensation insurance premiums, unemployment insurance contributions, and social security tax.

Statements shall be accompanied and supported by a receipted invoice for all materials used and transportation charges. However, if materials used on the force account work are not specifically purchased for such work but are taken from the Contractor's stock, then in lieu of the invoices the Contractor shall furnish an affidavit certifying that such materials were taken from his/her stock, that the quantity claimed was actually used, and that the price and transportation claimed represent the actual cost to the Contractor.

90-06 PARTIAL PAYMENTS. Partial payments will be made at least once each month as the work progresses. Said payments will be based upon estimates prepared by the Engineer of the value of the work performed and materials complete in place in accordance with the contract, plans, and specifications. Such partial payments may also include the delivered actual cost of those materials stockpiled and stored in accordance with the subsection titled PAYMENT FOR MATERIALS ON HAND of this section.

The Owner may make changes in any periodic estimate submitted by the Contractor and the payment due on said periodic estimate shall be computed in accordance with the changes so made, but such changes or any requirement for a corrected periodic estimate shall not affect the due date for the periodic payment or the date for the commencement of interest charges on the amount of the periodic payment computed in accordance with the changes made, as provided herein; provided, that the Owner may, with seven (7) days after receipt, return to the Contractor for correction any periodic estimate which is not in the required form or which contains computations not arithmetically correct and, in that event, the date of receipt of such periodic estimate shall be the date of receipt of the corrected periodic estimate in proper form and with arithmetically correct computation. The date of receipt of a periodic estimate received on a Saturday shall be the first working day thereafter.

No partial payment will be made when the amount due the Contractor since the last estimate amounts to less than five hundred dollars.

From the total of the amount determined to be payable on a partial payment, 10 percent of such total amount will be deducted and retained by the Owner until the final payment is made, except as may be provided (at the Contractor's option) in the subsection titled PAYMENT OF WITHHELD FUNDS of this section. The balance (90 percent) of the amount payable, less all previous payments, shall be certified for payment. Should the Contractor exercise his/her option, as provided in the subsection titled PAYMENT OF WITHHELD FUNDS of this section, no such 10 percent retainage shall be deducted.

The Engineer shall determine whether any periodic estimate is in proper form, and such determination shall be final and conclusive.

All materials and Work covered by partial payments made shall become the sole property of the Owner, but this provision shall not be construed as relieving the Contractor from the sole responsibility for the care and

protection of materials and work for which payments have been made or the restoration of any damaged Work, or as a waiver of the right of the Owner to require the fulfillment of all terms of the Contract.

If the Engineer certifies to the Owner in writing that certain items of Work are not being performed or have not been performed in accordance with the provisions of this Contract, no such partial payment shall be required to be made with respect to such items.

When not less than 95 percent of the work has been completed the Engineer may, at his/her discretion and with the consent of the surety, prepare an estimate from which will be retained an amount not less than twice the contract value or estimated cost, whichever is greater, of the work remaining to be done. The remainder, less all previous payments and deductions, will then be certified for payment to the Contractor.

It is understood and agreed that the Contractor shall not be entitled to demand or receive partial payment based on quantities of work in excess of those provided in the proposal or covered by approved change orders or supplemental agreements, except when such excess quantities have been determined by the Engineer to be a part of the final quantity for the item of work in question.

No partial payment shall bind the Owner to the acceptance of any materials or work in place as to quality or quantity. All partial payments are subject to correction at the time of final payment as provided in the subsection titled ACCEPTANCE AND FINAL PAYMENT of this section.

All material and work covered by partial payments made shall thereupon become the sole property of the Owner, but this provision shall not be construed as relieving the Contractor from the sole responsibility for the care and protection of materials and work upon which payments have been made or the restoration of any damaged work, or as a waiver of the right of the Owner to require the fulfillment of all of the terms of the Contract.

**90-07 PAYMENT OF SUBCONTRACTORS.** The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than ten (10) days from the receipt of each payment the prime contractor receives from the Owner. The prime contractor agrees further to return retainage payments to each subcontractor within (10) days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the Owner. This clause applies to both DBE and non-DBE subcontractors.

The AIRPORT shall monitor and enforce compliance with the prompt payment requirements by requiring release and waiver of liens from all subcontractors and major material suppliers on a monthly basis. The prime contractor shall submit the release and waiver liens with their submittal of any partial or final payment request. The subcontractors or suppliers shall certify that they received payment current to the previous prime contractor's payment request for which the AIRPORT has processed payment. A sample release form is provided in at the end of this Section

**90-08 PAYMENT FOR MATERIALS ON HAND.** Partial payments may be made to the extent of the delivered cost of materials to be incorporated in the work, provided that such materials meet the requirements of the contract, plans, and specifications and are delivered to acceptable sites on the airport property or at other sites in the vicinity that are acceptable to the Owner. Such delivered costs of stored or stockpiled materials may be included in the next partial payment after the following conditions are met:

- a. The material has been stored or stockpiled in a manner acceptable to the Engineer at or on an approved site.



- b. The Contractor has furnished the Engineer with acceptable evidence of the quantity and quality of such stored or stockpiled materials.
- c. The Contractor has furnished the Engineer with satisfactory evidence that the material and transportation costs have been paid.
- d. The Contractor has furnished the Owner legal title (free of liens or encumbrances of any kind) to the material so stored or stockpiled.
- e. The Contractor has furnished the Owner evidence that the material so stored or stockpiled is insured against loss by damage to or disappearance of such materials at anytime prior to use in the work.

It is understood and agreed that the transfer of title and the Owner's payment for such stored or stockpiled materials shall in no way relieve the Contractor of his/her responsibility for furnishing and placing such materials in accordance with the requirements of the contract, plans, and specifications.

In no case will the amount of partial payments for materials on hand exceed the contract price for such materials or the contract price for the contract item in which the material is intended to be used.

No partial payment will be made for stored or stockpiled living or perishable plant materials.

The Contractor shall bear all costs associated with the partial payment of stored or stockpiled materials in accordance with the provisions of this subsection.

**90-09 PAYMENT OF WITHHELD FUNDS.** At the Contractor's option, he/she may request that the Owner accept (in lieu of the 10 percent retainage on partial payments described in the subsection titled **PARTIAL PAYMENTS** of this section) the Contractor's deposits in escrow under the following conditions.

- a. The Contractor shall bear all expenses of establishing and maintaining an escrow account and escrow agreement acceptable to the Owner.
- b. The Contractor shall deposit to and maintain in such escrow only those securities or bank certificates of deposit as are acceptable to the Owner and having a value not less than the 10 percent retainage that would otherwise be withheld from partial payment.
- c. The Contractor shall enter into an escrow agreement satisfactory to the Owner.
- d. The Contractor shall obtain the written consent of the surety to such agreement.

**90-10 LIENS.** Any and all partial or advance payments made hereunder shall be secured, when made, by a lien in favor of the Owner upon the work and upon article, materials, and other property acquired for or allocated to the performance of this Contract, and upon such part of any mass or property not specifically allocated as represents the proportion of the total mass to be allocated to this Contract except to the extent that the Owner, by virtue of any other provisions of this Contract, or otherwise, shall have valid title to such work, articles, materials, or other property as against other creditors of the Contractor.

It is agreed that in case of default by the Contractor in the performance of this Contract, including any bankruptcy, receivership, reorganization, assignment for the benefit of creditors or other insolvency proceeding of the Contractor which is not waived by the Owner, such default, unless waived by the Owner, shall ipso facto operate to vest in the Owner title to such of the work and property acquired and/or produced by the Contractor for the performance of this Contract, the title of which has not been previously vested in the

Owner under the provisions of this Contract, as the Contracting Officer shall not be operative unless at least one partial or advance payment shall have been made under this Contract.

The Contractor agrees that, to the extent determined necessary and practical by the Contracting Officer, it will identify by marking or segregating all property which is subject to a lien in favor of the Owner by virtue of any provisions of this Contract in such manner as to indicate that it is subject to such lien and that it has been acquired for or allocated to the performance of this Contract. In any event, the Contractor shall maintain adequate accounting control over such property on its books and records.

**90-11 ACCEPTANCE AND FINAL PAYMENT.** When the contract work has been accepted in accordance with the requirements of the subsection titled FINAL ACCEPTANCE of Section 50, the Engineer will prepare the final estimate of the items of work actually performed. The Contractor shall approve the Engineer's final estimate or advise the Engineer of his/her objections to the final estimate which are based on disputes in measurements or computations of the final quantities to be paid under the contract as amended by change order or supplemental agreement. The Contractor and the Engineer shall resolve all disputes (if any) in the measurement and computation of final quantities to be paid within 30 calendar days of the Contractor's receipt of the Engineer's final estimate. If, after such 30-day period, a dispute still exists, the Contractor may approve the Engineer's estimate under protest of the quantities in dispute, and such disputed quantities shall be considered by the Owner as a claim in accordance with the subsection titled CLAIMS FOR ADJUSTMENT AND DISPUTES of Section 50.

After the Contractor has approved, or approved under protest, the Engineer's final estimate, final payment will be processed based on the entire sum, or the undisputed sum in case of approval under protest, determined to be due the Contractor less all previous payments and all amounts to be deducted under the provisions of the contract. All prior partial estimates and payments shall be subject to correction in the final estimate and payment.

If the Contractor has filed a claim for additional compensation under the provisions of the subsection titled CLAIMS FOR ADJUSTMENTS AND DISPUTES of Section 50 or under the provisions of this subsection, such claims will be considered by the Owner in accordance with local laws or ordinances. Upon final adjudication of such claims, any additional payment determined to be due the Contractor will be paid pursuant to a supplemental final estimate.

If at any time during the period of one (1) year or as indicated otherwise in these specifications, from the date of the final acceptance of the Work under this Contract, any part of such Work which, in the opinion of the Engineer, requires replacing or repairing, or damage to other property of the Owner caused by any defect in the Work, the Engineer may notify the Contractor in person or by mail to make the required repairs or replacement and repair such damage. If the Contractor neglects to start such repairs or replacements to the satisfaction of the Engineer within ten (10) days from the date of giving or mailing such notice, then the Engineer may employ other persons to make such repairs and replacements and the Contractor agrees, upon demand, to pay to the Owner all amounts which it expends for such repair or replacement.

**90-12. SAMPLE RELEASE AND WAIVER OR LEIN FORM.** A sample of the *Subcontractor and Supplies Release of Waiver of Liens and Claims* for to be used by the Contractor in submitting partial/final payment request is included below.

SUBCONTRACTOR AND SUPPLIER  
RELEASE AND WAIVER OF LIENS AND CLAIMS

To:

Contract # \_\_\_\_\_

*(insert name and address of prime contractor)*

Contract Date: \_\_\_\_\_

Contract Description: \_\_\_\_\_

(hereinafter referred to as the PRIME CONTRACTOR) \_\_\_\_\_

-----  
In consideration of payment to the undersigned by the PRIME CONTRACTOR, upon which this release is conditioned, the undersigned: 1) has accepted complete payment of all compensation payable for the work performed under the provisions of the PRIME CONTRACTOR'S Contract to the date coinciding with the PRIME CONTRACTOR'S previous payment request to the AIRPORT for work on the above referred to project, including all amendments, modifications, and change orders executed thereto; 2) Fully releases and discharges without condition beyond receipt of payment, the PRIME CONTRACTOR, and any representative, agent, or servant thereof from any and all claims, demands, causes of action of every kind and nature arising directly or indirectly out of said Contract for the work completed to the date specified in PRIME CONTRACTOR'S previous payment request to the AIRPORT; 3) certifies that its subcontractors and all parties who have furnished material, equipment, or labor in connection with any work covered by the aforementioned contract documents, have been paid in full, and; 4) for themselves and on behalf of their agents, signs, servants, employees or subcontractors, waives and relinquishes any and all liens, stop notices, levies or attachments and any and all rights to claim on the undersigned's work completed as of the date specified in the PRIME CONTRACTOR'S previous payment request or file for the same that any of them may now or hereafter have against the PRIME CONTRACTOR, the AIRPORT, or the property thereof.

IN WITNESS WHEREOF, the Contractor has hereunto set its hand this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
Contractor

\_\_\_\_\_  
Authorized Company Signature

\_\_\_\_\_  
(Print Name and Title)

Subscribed and sworn before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

NOTARY PUBLIC \_\_\_\_\_

My Commission expires on \_\_\_\_\_

END OF SECTION 90

## SECTION 100

### CONTRACTOR QUALITY CONTROL PROGRAM

100-01 General. When the specifications require a Contractor Quality Control Program, the Contractor shall establish, provide, and maintain an effective Quality Control Program that details the methods and procedures that will be taken to assure that all materials and completed construction conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors. Although guidelines are established and certain minimum requirements are specified herein and elsewhere in the contract technical specifications, the Contractor shall assume full responsibility for accomplishing the stated purpose.

The intent of this section is to enable the Contractor to establish a necessary level of control that will:

- a. Adequately provide for the production of acceptable quality materials.
- b. Provide sufficient information to assure both the Contractor and the Engineer that the specification requirements can be met.
- c. Allow the Contractor as much latitude as possible to develop his or her own standard of control.

The Contractor shall be prepared to discuss and present, at the preconstruction conference, his/her understanding of the quality control requirements. The Contractor shall not begin any construction or production of materials to be incorporated into the completed work until the Quality Control Program has been reviewed by the Engineer. No partial payment will be made for materials subject to specific quality control requirements until the Quality Control Program has been reviewed.

The quality control requirements contained in this section and elsewhere in the contract technical specifications are in addition to and separate from the acceptance testing requirements. Acceptance testing requirements are the responsibility of the Engineer.

#### 100-02 DESCRIPTION OF PROGRAM.

- a. General Description. The Contractor shall establish a Quality Control Program to perform inspection and testing of all items of work required by the technical specifications, including those performed by subcontractors. This Quality Control Program shall ensure conformance to applicable specifications and plans with respect to materials, workmanship, construction, finish, and functional performance. The Quality Control Program shall be effective for control of all construction work performed under this Contract and shall specifically include surveillance and tests required by the technical specifications, in addition to other requirements of this section and any other activities deemed necessary by the Contractor to establish an effective level of quality control.
- b. Quality Control Program. The Contractor shall describe the Quality Control Program in a written document which shall be reviewed by the Engineer prior to the start of any production, construction, or off-site fabrication. The written Quality Control Program shall be submitted to the Engineer for review at least 14 calendar days before the start of work.

The Quality Control Program shall be organized to address, as a minimum, the following items:

- a. Quality control organization;  
Newton Field – Jackman, Maine  
Reconstruct Runway 14-32  
PIN #010402.00

- b. Project progress schedule;
- c. Submittals schedule;
- d. Inspection requirements;
- e. Quality control testing plan;
- f. Documentation of quality control activities; and
- g. Requirements for corrective action when quality control and/or acceptance criteria are not met.

The Contractor is encouraged to add any additional elements to the Quality Control Program that he/she deems necessary to adequately control all production and/or construction processes required by this contract.

100-03 QUALITY CONTROL ORGANIZATION. The Contractor's Quality Control Program shall be implemented by the establishment of a separate quality control organization. An organizational chart shall be developed to show all quality control personnel and how these personnel integrate with other management/production and construction functions and personnel.

The organizational chart shall identify all quality control staff by name and function, and shall indicate the total staff required to implement all elements of the Quality Control Program, including inspection and testing for each item of work. If necessary, different technicians can be utilized for specific inspection and testing functions for different items of work. If an outside organization or independent testing laboratory is used for implementation of all or part of the Quality Control Program, the personnel assigned shall be subject to the qualification requirements of paragraph 100-03a and 100-03b. The organizational chart shall indicate which personnel are Contractor employees and which are provided by an outside organization.

The quality control organization shall consist of the following minimum personnel:

- a. Program Administrator. The Program Administrator shall be a full-time employee of the Contractor, or a consultant engaged by the Contractor. The Program Administrator shall have a minimum of 5 years of experience in airport and/or highway construction and shall have had prior quality control experience on a project of comparable size and scope as the contract.

Additional qualifications for the Program Administrator shall include at least 1 of the following requirements:

- (1) Professional engineer with 1 year of airport paving experience acceptable to the Engineer.
- (2) Engineer-in-training with 2 years of airport paving experience acceptable to the Engineer.
- (3) An individual with 3 years of highway and/or airport paving experience acceptable to the Engineer, with a Bachelor of Science Degree in Civil Engineering, Civil Engineering Technology or Construction.
- (4) Construction materials technician certified at Level III by the National Institute for Certification in Engineering Technologies (NICET).
- (5) Highway materials technician certified at Level III by NICET.

- (6) Highway construction technician certified at Level III by NICET.
- (7) A NICET certified engineering technician in Civil Engineering Technology with 5 years of highway and/or airport paving experience acceptable to the Engineer.

The Program Administrator shall have full authority to institute any and all actions necessary for the successful implementation of the Quality Control Program to ensure compliance with the contract plans and technical specifications. The Program Administrator shall report directly to a responsible officer of the construction firm. The Program Administrator may supervise the Quality Control Program on more than one project provided that person can be at the job site within 2 hours after being notified of a problem.

- b. Quality Control Technicians. A sufficient number of quality control technicians necessary to adequately implement the Quality Control Program shall be provided. These personnel shall be either engineers, engineering technicians, or experienced craftsman with qualifications in the appropriate field equivalent to NICET Level II or higher construction materials technician or highway construction technician and shall have a minimum of 2 years of experience in their area of expertise.

The quality control technicians shall report directly to the Program Administrator and shall perform the following functions:

- (1) Inspection of all materials, construction, plant, and equipment for conformance to the technical specifications, and as required by Section 100-06.
- (2) Performance of all quality control tests as required by the technical specifications and Section 100-07.

Certification at an equivalent level, by a state or nationally recognized organization will be acceptable in lieu of NICET certification.

- c. Staffing Levels. The Contractor shall provide sufficient qualified quality control personnel to monitor each work activity at all times. Where material is being produced in a plant for incorporation into the work, separate plant and field technicians shall be provided at each plant and field placement location. The scheduling and coordinating of all inspection and testing must match the type and pace of work activity. The Quality Control Program shall state where different technicians will be required for different work elements.

**100-04 PROJECT PROGRESS SCHEDULE.** The Contractor shall submit a coordinated construction schedule for all work activities. The schedule shall be prepared as a network diagram in Critical Path Method (CPM), PERT, or other format, or as otherwise specified in the contract. As a minimum, it shall provide information on the sequence of work activities, milestone dates, and activity duration.

The Contractor shall maintain the work schedule and provide an update and analysis of the progress schedule on a twice monthly basis, or as otherwise specified in the contract. Submission of the work schedule shall not relieve the Contractor of overall responsibility for scheduling, sequencing, and coordinating all work to comply with the requirements of the contract.

**100-05 SUBMITTALS SCHEDULE.** The Contractor shall submit a detailed listing of all submittals (e.g., mix designs, material certifications) and shop drawings required by the technical

specifications. The listing can be developed in a spreadsheet format and shall include:

- a. Specification item number;
- b. Item description;
- c. Description of submittal;
- d. Specification paragraph requiring submittal; and
- e. Scheduled date of submittal.

**100-06 INSPECTION REQUIREMENTS.** Quality control inspection functions shall be organized to provide inspections for all definable features of work, as detailed below. All inspections shall be documented by the Contractor as specified by Section 100-07.

Inspections shall be performed daily to ensure continuing compliance with contract requirements until completion of the particular feature of work. These shall include the following minimum requirements:

- a. During plant operation for material production, quality control test results and periodic inspections shall be utilized to ensure the quality of aggregates and other mix components, and to adjust and control mix proportioning to meet the approved mix design and other requirements of the technical specifications. All equipment utilized in proportioning and mixing shall be inspected to ensure its proper operating condition. The Quality Control Program shall detail how these and other quality control functions will be accomplished and utilized.
- b. During field operations, quality control test results and periodic inspections shall be utilized to ensure the quality of all materials and workmanship. All equipment utilized in placing, finishing, and compacting shall be inspected to ensure its proper operating condition and to ensure that all such operations are in conformance to the technical specifications and are within the plan dimensions, lines, grades, and tolerances specified. The Program shall document how these and other quality control functions will be accomplished and utilized.

**100-07 QUALITY CONTROL TESTING PLAN.** As a part of the overall Quality Control Program, the Contractor shall implement a quality control testing plan, as required by the technical specifications. The testing plan shall include the minimum tests and test frequencies required by each technical specification Item, as well as any additional quality control tests that the Contractor deems necessary to adequately control production and/or construction processes.

The testing plan can be developed in a spreadsheet fashion and shall, as a minimum, include the following:

- a. Specification item number (e.g., 304, 403, etc.);
- b. Item description (e.g., Plant Mix Bituminous Pavements);
- c. Test type (e.g., gradation, grade, asphalt content);
- d. Test standard (e.g., ASTM or AASHTO test number, as applicable);
- e. Test frequency (e.g., as required by technical specifications or minimum frequency when requirements are not stated);
- f. Responsibility (e.g., plant technician); and
- g. Control requirements (e.g., target, permissible deviations).

The testing plan shall contain a statistically-based procedure of random sampling for acquiring test samples in accordance with ASTM D 3665. The Engineer shall be provided the opportunity to witness quality control sampling and testing.

All quality control test results shall be documented by the Contractor as required by Section 100-08.

100-08 DOCUMENTATION. The Contractor shall maintain current quality control records of all inspections and tests performed. These records shall include factual evidence that the required inspections or tests have been performed, including type and number of inspections or tests involved; results of inspections or tests; nature of defects, deviations, causes for rejection, etc.; proposed remedial action; and corrective actions taken.

These records must cover both conforming and defective or deficient features, and must include a statement that all supplies and materials incorporated in the work are in full compliance with the terms of the contract. Legible copies of these records shall be furnished to the Engineer daily. The records shall cover all work placed subsequent to the previously furnished records and shall be verified and signed by the Contractor's Program Administrator.

Specific Contractor quality control records required for the contract shall include, but are not necessarily limited to, the following records:

- a. Daily Inspection Reports. Each Contractor quality control technician shall maintain a daily log of all inspections performed for both Contractor and subcontractor operations on a form acceptable to the Engineer. These technician's daily reports shall provide factual evidence that continuous quality control inspections have been performed and shall, as a minimum, include the following:

- (1) Technical specification item number and description;
- (2) Compliance with approved submittals;
- (3) Proper storage of materials and equipment;
- (4) Proper operation of all equipment;
- (5) Adherence to plans and technical specifications;
- (6) Review of quality control tests; and
- (7) Safety inspection.

The daily inspection reports shall identify inspections conducted, results of inspections, location and nature of defects found, causes for rejection, and remedial or corrective actions taken or proposed.

The daily inspection reports shall be signed by the responsible quality control technician and the Program Administrator. The Engineer shall be provided at least one copy of each daily inspection report on the work day following the day of record.

- b. Daily Test Reports. The Contractor shall be responsible for establishing a system which will record all quality control test results. Daily test reports shall document the following information:

- (1) Technical specification item number and description;
- (2) Test designation;
- (3) Location;
- (4) Date of test;
- (5) Control requirements;
- (6) Test results;
- (7) Causes for rejection;
- (8) Recommended remedial actions; and
- (9) Retests.

Test results from each day's work period shall be submitted to the Engineer prior to the start of the next day's work period. When required by the technical specifications, the Contractor shall maintain statistical quality



control charts. The daily test reports shall be signed by the responsible quality control technician and the Program Administrator.

**100-09 CORRECTIVE ACTION REQUIREMENTS.** The Quality Control Program shall indicate the appropriate action to be taken when a process is deemed, or believed, to be out of control (out of tolerance) and detail what action will be taken to bring the process into control. The requirements for corrective action shall include both general requirements for operation of the Quality Control Program as a whole, and for individual items of work contained in the technical specifications.

The Quality Control Program shall detail how the results of quality control inspections and tests will be used for determining the need for corrective action and shall contain clear sets of rules to gauge when a process is out of control and the type of correction to be taken to regain process control.

When applicable or required by the technical specifications, the Contractor shall establish and utilize statistical quality control charts for individual quality control tests. The requirements for corrective action shall be linked to the control charts.

**100-10 SURVEILLANCE BY THE ENGINEER.** All items of material and equipment shall be subject to surveillance by the Engineer at the point of production, manufacture or shipment to determine if the Contractor, producer, manufacturer or shipper maintains an adequate quality control system in conformance with the requirements detailed herein and the applicable technical specifications and plans. In addition, all items of materials, equipment and work in place shall be subject to surveillance by the Engineer at the site for the same purpose.

Surveillance by the Engineer does not relieve the Contractor of performing quality control inspections of either on-site or off-site Contractor's or subcontractor's work.

**100-11 NONCOMPLIANCE.**

- a. The Engineer will notify the Contractor of any noncompliance with any of the foregoing requirements. The Contractor shall, after receipt of such notice, immediately take corrective action. Any notice, when delivered by the Engineer or his/her authorized representative to the Contractor or his/her authorized representative at the site of the work, shall be considered sufficient notice.
- b. In cases where quality control activities do not comply with either the Contractor's Quality Control Program or the contract provisions, or where the Contractor fails to properly operate and maintain an effective Quality Control Program, as determined by the Engineer, the Engineer may:
  - (1) Order the Contractor to replace ineffective or unqualified quality control personnel or subcontractors.
  - (2) Order the Contractor to stop operations until appropriate corrective actions is taken.

**END OF SECTION 100**

## SECTION 110

### METHOD OF ESTIMATING PERCENTAGE OF MATERIAL WITHIN SPECIFICATION LIMITS (PWL)

**110-01 GENERAL.** When the specifications provide for acceptance of material based on the method of estimating percentage of material within specification limits (PWL), the PWL will be determined in accordance with this section. All test results for a lot will be analyzed statistically to determine the total estimated percent of the lot that is within specification limits. The PWL is computed using the sample average ( $\bar{X}$ ) and sample standard deviation ( $S_n$ ) of the specified number ( $n$ ) of sublots for the lot and the specification tolerance limits,  $L$  for lower and  $U$  for upper, for the particular acceptance parameter. From these values, the respective Quality index(s),  $Q_L$  for Lower Quality Index and/or  $Q_U$  for Upper Quality Index, is computed and the PWL for the lot for the specified  $n$  is determined from Table 1.

There is some degree of uncertainty (risk) in the measurement for acceptance because only a small fraction of production material (the population) is sampled and tested. This uncertainty exists because all portions of the production material have the same probability to be randomly sampled. The Contractor's risk is the probability that material produced at the acceptable quality level is rejected or subjected to a pay adjustment. The Owner's risk is the probability that material produced at the rejectable quality level is accepted.

IT IS THE INTENT OF THIS SECTION TO INFORM THE CONTRACTOR THAT, IN ORDER TO CONSISTENTLY OFFSET THE CONTRACTOR'S RISK FOR MATERIAL EVALUATED, PRODUCTION QUALITY (USING POPULATION AVERAGE AND POPULATION STANDARD DEVIATION) MUST BE MAINTAINED AT THE ACCEPTABLE QUALITY SPECIFIED OR HIGHER. IN ALL CASES, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PRODUCE AT QUALITY LEVELS THAT WILL MEET THE SPECIFIED ACCEPTANCE CRITERIA WHEN SAMPLED AND TESTED AT THE FREQUENCIES SPECIFIED.

**110-02 METHOD FOR COMPUTING PWL.** The computational sequence for computing PWL is as follows:

- a. Divide the lot into  $n$  sublots in accordance with the acceptance requirements of the specification.
- b. Locate the random sampling position within the subplot in accordance with the requirements of the specification.
- c. Make a measurement at each location, or take a test portion and make the measurement on the test portion in accordance with the testing requirements of the specification.
- d. Find the sample average ( $\bar{X}$ ) for all subplot values within the lot by using the following formula:

$$\bar{X} = (x_1 + x_2 + x_3 + \dots + x_n) / n$$

Where:

$\bar{X}$	= Sample average of all subplot values within a lot
$x_1, x_2$	= Individual subplot values
$n$	= Number of sublots

- e. Find the sample standard deviation ( $S_n$ ) by use of the following formula:

$$S_n = [(d_1^2 + d_2^2 + d_3^2 + \dots + d_n^2)/(n-1)]^{1/2}$$

Where:  $S_n$  = Sample standard deviation of the number of subplot values in the set  
 $d_1, d_2, \dots$  = Deviations of the individual subplot values  $x_1, x_2, \dots$  from the average value  
 $X$   
that is:  $d_1 = (x_1 - X), d_2 = (x_2 - X) \dots d_n = (x_n - X)$   
 $n$  = Number of sublots

- f. For single sided specification limits (i.e., L only), compute the Lower Quality Index  $Q_L$  by use of the following formula:

$$Q_L = (X - L) / S_n$$

Where:  $L$  = specification lower tolerance limit

Estimate the percentage of material within limits (PWL) by entering Table 1 with  $Q_L$ , using the column appropriate to the total number ( $n$ ) of measurements. If the value of  $Q_L$  falls between values shown on the table, use the next higher value of PWL.

- g. For double sided specification limits (i.e. L and U), compute the Quality Indexes  $Q_L$  and  $Q_U$  by use of the following formulas:

$$Q_L = (X - L) / S_n \quad \text{and} \quad Q_U = (U - X) / S_n$$

Where:

$L$  and  $U$  = specification lower and upper tolerance limits

Estimate the percentage of material between the lower ( $L$ ) and upper ( $U$ ) tolerance limits (PWL) by entering Table 1 separately with  $Q_L$  and  $Q_U$ , using the column appropriate to the total number ( $n$ ) of measurements, and determining the percent of material above  $P_L$  and percent of material below  $P_U$  for each tolerance limit. If the values of  $Q_L$  fall between values shown on the table, use the next higher value of  $P_L$  or  $P_U$ . Determine the PWL by use of the following formula:

$$PWL = (P_U + P_L) - 100$$

Where:

$P_L$  = percent within lower specification limit

$P_U$  = percent within upper specification limit

### EXAMPLE OF PWL CALCULATION

**Project:** Example Project  
**Test Item:** Item P-401, Lot A.

#### A. PWL Determination for Mat Density.

1. Density of four random cores taken from Lot A.

A-1 96.60  
A-2 97.55  
A-3 99.30  
A-4 98.35

$n = 4$

2. Calculate average density for the lot.

$$X = (x_1 + x_2 + x_3 + \dots + x_n) / n$$

$$X = (96.60 + 97.55 + 99.30 + 98.35) / 4$$

$$X = 97.95 \text{ percent density}$$

3. Calculate the standard deviation for the lot.

$$S_n = [((96.60 - 97.95)^2 + (97.55 - 97.95)^2 + (99.30 - 97.95)^2 + (98.35 - 97.95)^2) / (4 - 1)]^{1/2}$$

$$S_n = [(1.82 + 0.16 + 1.82 + 0.16) / 3]^{1/2}$$

$$S_n = 1.15$$

4. Calculate the Lower Quality Index  $Q_L$  for the lot. ( $L=96.3$ )

$$Q_L = (X - L) / S_n$$

$$Q_L = (97.95 - 96.30) / 1.15$$

$$Q_L = 1.4384$$

5. Determine PWL by entering Table 1 with  $Q_L = 1.44$  and  $n = 4$ .

$$PWL = 98$$

B. PWL Determination for Air Voids.

1. Air Voids of four random samples taken from Lot A.

A-1	5.00
A-2	3.74
A-3	2.30
A-4	3.25

2. Calculate the average air voids for the lot.

$$X = (x_1 + x_2 + x_3 + \dots + x_n) / n$$

$$X = (5.00 + 3.74 + 2.30 + 3.25) / 4$$

$$X = 3.57 \text{ percent}$$

3. Calculate the standard deviation  $S_n$  for the lot.

$$S_n = \text{SQRT}[(3.57 - 5.00)^2 + (3.57 - 3.74)^2 + (3.57 - 2.30)^2 + (3.57 - 3.25)^2] / (4 - 1)$$

$$S_n = \text{SQRT}[(2.04 + 0.03 + 1.62 + 0.10) / 3]$$

$$S_n = 1.12$$

4. Calculate the Lower Quality Index  $Q_L$  for the lot. ( $L = 2.0$ )

$$Q_L = (X - L) / S_n$$

$$Q_L = (3.57 - 2.00) / 1.12$$

$$Q_L = 1.3992$$

5. Determine  $P_L$  by entering Table 1 with  $Q_L = 1.40$  and  $n = 4$ .

$$P_L = 97$$

6. Calculate the Upper Quality Index  $Q_U$  for the lot. ( $U = 5.0$ )

$$Q_U = (U - \bar{X}) / S_n$$

$$Q_U = (5.00 - 3.57) / 1.12$$

$$Q_U = 1.2702$$

7. Determine  $P_U$  by entering Table 1 with  $Q_U = 1.27$  and  $n = 4$ .  
 $P_U = 93$

8. Calculate Air Voids PWL

$$PWL = (P_L + P_U) - 100$$

$$PWL = (97 + 93) - 100 = 90$$

TABLE 1. TABLE FOR ESTIMATING PERCENT OF LOT WITHIN LIMITS (PWL)

Percent Within Limits (PWL), $P_L$ and $P_U$	Positive Values of Q					
	n=3	n=4	n=5	n=6	n=7	n=8
99	1.1541	1.4700	1.6714	1.8008	1.8888	1.9520
98	1.1524	1.4400	1.6016	1.6982	1.7612	1.8053
97	1.1496	1.4100	1.5427	1.6181	1.6661	1.6993
96	1.1456	1.3800	1.4897	1.5497	1.5871	1.6127
95	1.1405	1.3500	1.4407	1.4887	1.5181	1.5381
94	1.1342	1.3200	1.3946	1.4329	1.4561	1.4716
93	1.1269	1.2900	1.3508	1.3810	1.3991	1.4112
92	1.1184	1.2600	1.3088	1.3323	1.3461	1.3554
91	1.1089	1.2300	1.2683	1.2860	1.2964	1.3032
90	1.0982	1.2000	1.2290	1.2419	1.2492	1.2541
89	1.0864	1.1700	1.1909	1.1995	1.2043	1.2075
88	1.0736	1.1400	1.1537	1.1587	1.1613	1.1630
87	1.0597	1.1100	1.1173	1.1191	1.1199	1.1204
86	1.0448	1.0800	1.0817	1.0808	1.0800	1.0794
85	1.0288	1.0500	1.0467	1.0435	1.0413	1.0399
84	1.0119	1.0200	1.0124	1.0071	1.0037	1.0015
83	0.9939	0.9900	0.9785	0.9715	0.9672	0.9643
82	0.9749	0.9600	0.9452	0.9367	0.9325	0.9281
81	0.9550	0.9300	0.9123	0.9025	0.8966	0.8928
80	0.9342	0.9000	0.8799	0.8690	0.8625	0.8583
79	0.9124	0.8700	0.8478	0.8360	0.8291	0.8245
78	0.8897	0.8400	0.8160	0.8036	0.7962	0.7915
77	0.8662	0.8100	0.7846	0.7716	0.7640	0.7590
76	0.8417	0.7800	0.7535	0.7401	0.7322	0.7271
75	0.8165	0.7500	0.7226	0.7089	0.7009	0.6958
74	0.7904	0.7200	0.6921	0.6781	0.6701	0.6649
73	0.7636	0.6900	0.6617	0.6477	0.6396	0.6344
72	0.7360	0.6600	0.6316	0.6176	0.6095	0.6044
71	0.7077	0.6300	0.6016	0.5878	0.5798	0.5747
70	0.6787	0.6000	0.5719	0.5583	0.5504	0.5454
69	0.6490	0.5700	0.5423	0.5290	0.5213	0.5164
68	0.6187	0.5400	0.5129	0.4999	0.4924	0.4877
67	0.5878	0.5100	0.4836	0.4710	0.4638	0.4592
66	0.5563	0.4800	0.4545	0.4424	0.4354	0.4310
65	0.5242	0.4500	0.4255	0.4139	0.4073	0.4031
64	0.4916	0.4200	0.3967	0.3856	0.3793	0.3753
63	0.4586	0.3900	0.3679	0.3575	0.3515	0.3477
62	0.4251	0.3600	0.3392	0.3295	0.3239	0.3203
61	0.3911	0.3300	0.3107	0.3016	0.2964	0.2931
60	0.3568	0.3000	0.2822	0.2738	0.2691	0.2660
59	0.3222	0.2700	0.2537	0.2461	0.2418	0.2391
58	0.2872	0.2400	0.2254	0.2186	0.2147	0.2122
57	0.2519	0.2100	0.1971	0.1911	0.1877	0.1855
56	0.2164	0.1800	0.1688	0.1636	0.1613	0.1592
55	0.1806	0.1500	0.1408	0.1363	0.1338	0.1322

TABLE 1. TABLE FOR ESTIMATING PERCENT OF LOT WITHIN LIMITS (PWL)

Percent Within Limits (PWL), $P_L$ and $P_U$	Positive Values of Q					
	n=3	n=4	n=5	n=6	n=7	n=8
54	0.1447	0.1200	0.1125	0.1090	0.1070	0.1057
53	0.1087	0.0900	0.0843	0.0817	0.0802	0.0792
52	0.0725	0.0600	0.0562	0.0544	0.0534	0.0528
51	0.0363	0.0300	0.0281	0.0272	0.0267	0.0264
50	0.0	0.0	0.0	0.0	0.0	0.0
49	-0.0363	-0.0300	-0.0281	-0.0272	-0.0267	-0.0264
48	-0.0725	-0.0600	-0.0562	-0.0544	-0.0534	-0.0528
47	-0.1087	-0.0900	-0.0843	-0.0817	-0.0802	-0.0792
46	-0.1447	-0.1200	-0.1125	-0.1090	-0.1070	-0.1057
45	-0.1806	-0.1500	-0.1408	-0.1363	-0.1338	-0.1322
44	-0.2164	-0.1800	-0.1688	-0.1636	-0.1613	-0.1592
43	-0.2519	-0.2100	-0.1971	-0.1911	-0.1877	-0.1855
42	-0.2872	-0.2400	-0.2254	-0.2186	-0.2147	-0.2122
41	-0.3222	-0.2700	-0.2537	-0.2461	-0.2418	-0.2391
40	-0.3568	-0.3000	-0.2822	-0.2738	-0.2691	-0.2660
39	-0.3911	-0.3300	-0.3107	-0.3016	-0.2964	-0.2931
38	-0.4251	-0.3600	-0.3392	-0.3295	-0.3239	-0.3203
37	-0.4586	-0.3900	-0.3679	-0.3575	-0.3515	-0.3477
36	-0.4916	-0.4200	-0.3967	-0.3856	-0.3793	-0.3753
35	-0.5242	-0.4500	-0.4255	-0.4139	-0.4073	-0.4031
34	-0.5563	-0.4800	-0.4545	-0.4424	-0.4354	-0.4310
33	-0.5878	-0.5100	-0.4836	-0.4710	-0.4638	-0.4592
32	-0.6187	-0.5400	-0.5129	-0.4999	-0.4924	-0.4877
31	-0.6490	-0.5700	-0.5423	-0.5290	-0.5213	-0.5164
30	-0.6787	-0.6000	-0.5719	-0.5583	-0.5504	-0.5454
29	-0.7077	-0.6300	-0.6016	-0.5878	-0.5798	-0.5747
28	-0.7360	-0.6600	-0.6316	-0.6176	-0.6095	-0.6044
27	-0.7636	-0.6900	-0.6617	-0.6477	-0.6396	-0.6344
26	-0.7904	-0.7200	-0.6921	-0.6781	-0.6701	-0.6649
25	-0.8165	-0.7500	-0.7226	-0.7089	-0.7009	-0.6958
24	-0.8417	-0.7800	-0.7535	-0.7401	-0.7322	-0.7271
23	-0.8662	-0.8100	-0.7846	-0.7716	-0.7640	-0.7590
22	-0.8897	-0.8400	-0.8160	-0.8036	-0.7962	-0.7915
21	-0.9124	-0.8700	-0.8478	-0.8360	-0.8291	-0.8245
20	-0.9342	-0.9000	-0.8799	-0.8690	-0.8625	-0.8583
19	-0.9550	-0.9300	-0.9123	-0.9025	-0.8966	-0.8928
18	-0.9749	-0.9600	-0.9452	-0.9367	-0.9325	-0.9281
17	-0.9939	-0.9900	-0.9785	-0.9715	-0.9672	-0.9643
16	-1.0119	-1.0200	-1.0124	-1.0071	-1.0037	-1.0015
15	-1.0288	-1.0500	-1.0467	-1.0435	-1.0413	-1.0399
14	-1.0448	-1.0800	-1.0817	-1.0808	-1.0800	-1.0794
13	-1.0597	-1.1100	-1.1173	-1.1191	-1.1199	-1.1204
12	-1.0736	-1.1400	-1.1537	-1.1587	-1.1613	-1.1630
11	-1.0864	-1.1700	-1.1909	-1.1995	-1.2043	-1.2075

TABLE 1. TABLE FOR ESTIMATING PERCENT OF LOT WITHIN LIMITS (PWL)

Percent Within Limits (PWL), $P_L$ and $P_U$	Positive Values of Q					
	n=3	n=4	n=5	n=6	n=7	n=8
10	-1.0982	-1.2000	-1.2290	-1.2419	-1.2492	-1.2541
9	-1.1089	-1.2300	-1.2683	-1.2860	-1.2964	-1.3032
8	-1.1184	-1.2600	-1.3088	-1.3323	-1.3461	-1.3554
7	-1.1269	-1.2900	-1.3508	-1.3810	-1.3991	-1.4112
6	-1.1342	-1.3200	-1.3946	-1.4329	-1.4561	-1.4716
5	-1.1405	-1.3500	-1.4407	-1.4887	-1.5181	-1.5381
4	-1.1456	-1.3800	-1.4897	-1.5497	-1.5871	-1.6127
3	-1.1496	-1.4100	-1.5427	-1.6181	-1.6661	-1.6993
2	-1.1524	-1.4400	-1.6016	-1.6982	-1.7612	-1.8053
1	-1.1541	-1.4700	-1.6714	-1.8008	-1.8888	-1.9520



**JACKMAN- NEWTON FIELD**  
**RUNWAY RECONSTRUCTION**  
**JACKMAN – SOMERSET COUNTY**  
**PIN 010402.00**

**SECTION 3**

SPECIAL PROVISION  
(Consolidated Special Provision)

SPECIAL PROVISION SECTION 304  
AGGREGATE BASE AND SUBBASE COURSE

Add the following:

“304.3 Airfield Pavement Base Course

304.3-1.1 Description This item consists of a base course composed of crushed aggregates constructed on a prepared course in accordance with these specifications and in conformity to the dimensions and typical cross sections shown on the plans.

304.3-2.1 Aggregate. Aggregates shall consist of clean, sound, durable particles of crushed stone, crushed gravel, or crushed slag and shall be free from coatings of clay, silt, vegetable matter, and other objectionable materials and shall contain no clay balls. Fine aggregate passing the 4.75 mm (No. 4) sieve shall consist of fines from the operation of crushing the coarse aggregate. If necessary, fine aggregate may be added to produce the correct gradation. The fine aggregate shall be produced by crushing stone, gravel, or slag that meet the requirements for wear and soundness specified for coarse aggregate.

The crushed slag shall be an air-cooled, blast furnace slag and shall have a unit weight of not less than 1.12 Mg/cubic meter (70 pounds per cubic foot) when tested in accordance with ASTM C 29.

The crushed aggregate portion which is retained on the 4.75 mm (No. 4) sieve shall contain not more than 15 percent, by weight, of flat or elongated pieces as defined in ASTM D 693 and shall have at least 90 percent by weight of particles with at least two fractured faces and 100 percent with at least one fractured face. The area of each face shall be equal to at least 75 percent of the smallest midsectional area of the piece. When two fractured faces are contiguous, the angle between the planes of fractures shall be at least 30 to count as two fractured faces.

The percentage of wear shall not be greater than 45 percent when tested in accordance with ASTM C 131. The sodium sulfate soundness loss shall not exceed 12 percent, after 5 cycles, when tested in accordance with ASTM C 88.

The fraction passing the 0.42 mm (No. 40) sieve shall have a liquid limit no greater than 25 and a plasticity index of not more than 4 when tested in accordance with ASTM D 4318. The fine aggregate shall have a minimum sand equivalent value of 35 when tested in accordance with ASTM D 2419.

- a. Sampling and Testing. Aggregates for preliminary testing shall be furnished by the Contractor prior to the start of production. All tests for initial aggregate submittals necessary to determine compliance with the specification requirements will be made by the Engineer at no expense to the Contractor.

Samples of aggregates shall be furnished by the Contractor at the start of production and at intervals during production. The sampling points and intervals will be designated by the Engineer. The samples will be the basis of approval of specific lots of aggregates from the standpoint of the quality requirements of this section.

In lieu of testing, the Engineer may accept certified state test results indicating that the aggregate meets specification requirements.

Samples of aggregates to check gradation shall be taken by the Engineer at least once daily. Sampling shall be in accordance with ASTM D 75, and testing shall be in accordance with ASTM C 136 and C 117.

- b. Gradation Requirements. The gradation (job mix) of the final mixture shall fall within the design range indicated in Table 1, when tested in accordance with ASTM C 117 and C 136. The final gradation shall be continuously well graded from coarse to fine and shall not vary from the low limit on one sieve to the high limit on an adjacent sieve or vice versa.

Table 1. Requirements for Gradation of Aggregate

Sieve Size	Design Range Percentage by Weight Passing Sieves	Job Mix Tolerances Percent
37.0 mm (2 in)	100	
37.0 mm (1-1/2 in)	95-100	+/- 5
25.0 mm (1 in)	70-95	+/- 8
19.0 mm (3/4 in)	55-85	+/- 8
4.75 mm (No. 4)	30-60	+/- 8
0.60 mm (No. 30)	12-30	+/- 5
0.075 mm (No. 200)	0-8	+/- 3

The maximum percent of material, by weight, of particles smaller than 0.02 mm shall be 3 percent. It also may be necessary to have a lower percentage of material passing the 0.075mm sieve to help control the percentage of particles smaller than 0.02 mm.

The job mix tolerances in Table 1 shall be applied to the job mix gradation to establish a job control grading band. The full tolerance still will apply if application of the tolerances results in a job control grading band outside the design range.

The fraction of the final mixture that passes the 0.075 mm (No. 200) sieve shall not exceed 60 percent of the fraction passing the 0.60 mm (No. 30) sieve.

304.3-3.1 Preparing Underlying Course. The underlying course shall be checked and accepted by the Engineer before placing and spreading operations are started. Any ruts or soft yielding places caused by improper drainage conditions, hauling, or any other cause shall be corrected at the Contractor's expense before the base course is placed thereon. Material shall not be placed on frozen subgrade.

304.3-3.2 Mixing. The aggregate shall be uniformly blended during crushing operations or mixed in a plant. The plant shall blend and mix the materials to meet the specifications and to secure the proper moisture content for compaction.

304.3-3.3 Placing. The crushed aggregate base material shall be placed on the moistened subgrade in layers of uniform thickness with a mechanical spreader.

The maximum depth of a compacted layer shall be 150 mm (6 inches). If the total depth of the compacted material is more than 150 mm (6 inches), it shall be constructed in two or more layers. In multi-layer construction, the base course shall be placed in approximately equal-depth layers.

The previously constructed layer should be cleaned of loose and foreign material prior to placing the next layer. The surface of the compacted material shall be kept moist until covered with the next layer.

304.3-3.4 Compaction. Immediately upon completion of the spreading operations, the crushed aggregate shall be thoroughly compacted. The number, type, and weight of rollers shall be sufficient to compact the material to the required density. The moisture content of the material during placing operations shall not be below, nor more than 1-1/2 percentage points above, the optimum moisture content as determined by ASTM D 698.

304.3-3.5 Acceptance Sampling and Testing For Density. Aggregate base course shall be accepted for density on a lot basis. A lot will consist of one day's production where it is not expected to exceed 2000 square meters (2400 square yards). A lot will consist of one-half day's production where a day's production is expected to consist of between 2000 and 4000 square meters (2400 and 4800 square yards).

Each lot shall be divided into two equal sublots. One test shall be made for each subplot. Sampling locations will be determined by the Engineer on a random basis in accordance with statistical procedures contained in ASTM D 3665.

Each lot will be accepted for density when the field density is at least 100 percent of the maximum density of laboratory specimens prepared from samples of the base course material delivered to the job site. The specimens shall be compacted and tested in accordance with ASTM D 698. The in-place field density shall be determined in accordance with ASTM D 1556. If the specified density is not attained, the entire lot shall be reworked and/or re-compacted and two additional random tests made. This procedure shall be followed until the specified density is reached.

In lieu of the core method of field density determination, acceptance testing may be accomplished using a nuclear gage in accordance with ASTM D 2922. The gage should be field calibrated in accordance with paragraph 4 of ASTM D 2922. Calibration tests shall be conducted on the first lot of material placed that meets the density requirements.

Use of ASTM D 2922 results in a wet unit weight, and when using this method, ASTM D 3017 shall be used to determine the moisture content of the material. The calibration curve furnished with the moisture gages shall be checked as described in paragraph 7 of ASTM D 3017. The calibration checks of both the density and moisture gages shall be made at the beginning of a job and at intervals as determined by the Engineer.

If a nuclear gage is used for density determination, two random readings shall be made for each subplot.

304.3-3.6 Finishing. The surface of the aggregate base course shall be finished by blading or with automated equipment especially designed for this purpose.

In no case will the addition of thin layers of material be added to the top layer of base course to meet grade. If the elevation of the top layer is 12 mm (½ inch) or more below grade, the top layer of base shall be scarified to a depth of at least 75 mm (3 inches), new material added, and the layer shall be blended and re-compacted to bring it to grade. If the finished surface is above plan grade, it shall be cut back to grade and re-rolled.

304.3-3.7 Surface Tolerances. The finished surface shall not vary more than 9 mm (3/8 inch) when tested with a 4.8 m (16-foot) straightedge applied parallel with or at right angles to the centerline. Any deviation in excess of this amount shall be corrected by the Contractor at the Contractor's expense.

304.3-3.8 Thickness Control. The completed thickness of the base course shall be within 12 mm (1/2 inch) of the design thickness. Four determinations of thickness shall be made for each lot of material placed. The lot size shall be consistent with that specified in paragraph 3.5. Each lot shall be divided into four equal sublots. One test shall be made for each subplot. Sampling locations will be determined by the Engineer on a random basis in accordance with procedures contained in ASTM D 3665. Where the thickness is deficient by more than 12 mm (1/2 inch), the Contractor shall correct such areas at no additional cost by excavating to the required depth and replacing with new material. Additional test holes may be required to identify the limits of deficient areas.

304.3-3.9 Maintenance. The base course shall be maintained in a condition that will meet all specification requirements until the work is accepted. Equipment used in the construction of an adjoining section may be routed over completed portions of the base course, provided no damage results and provided that the equipment is routed over the full width of the base course to avoid rutting or uneven compaction.

304.3-4.1 Method of Measurement. The quantity of crushed aggregate base course to be paid for will be determined by measurement of the number of cubic yards of material actually constructed and accepted by the Engineer as complying with the plans and specifications. On individual depth measurements, thicknesses more than 12 mm (1/2 inch) in excess of the design thickness shall be considered as the specified thickness, plus 12 mm (1/2 inch) in computing the number of cubic yards for payment.

304.3-5.1 Basis of Payment. Payment shall be made at the contract unit price per cubic yard for crushed aggregate base course. This price shall be full compensation for furnishing all materials, for preparing and placing these materials, and for all labor, equipment tools, and incidentals necessary to complete the item.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
304.3      Crushed Aggregate Base Course	Cubic Yard

### Testing Criteria

ASTM C 29	Unit Weight of Aggregate
ASTM C 88	Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C 117	Materials Finer than 75um (No. 200) Sieve in Aggregates by Washing
ASTM C 131	Resistance to Abrasion of Small Size Coarse Aggregate by Use of the Los Angeles Machine
ASTM C 136	Sieve or Screen Analysis of Fine and Coarse Aggregate
ASTM D 75	Sampling Aggregate
ASTM D 693	Crushed Stone, Crushed Slag, and Crushed Gravel Dry-or Water-Bound Macadam Base Courses and Bituminous Macadam Base and Surface Courses of Pavements.
ASTM D 698	Moisture-Density Relations of Soils and Soil Aggregate Mixtures Using 5.5-lb (2.49-kg) Rammer and 12-in (305mm) Drop
ASTM D 1556	Density of Soil in Place by the Sand - Cone Method
ASTM D 1557	Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10-lb (4.5kg) Rammer and 18 in (457 mm) Drop
ASTM D 2419	Sand Equivalent Value of Soils and Fine Aggregate
ASTM D 2922	Density of Soil and Soil-Aggregate in Place by Nuclear Methods
ASTM D 3017	Moisture Content of Soil and Soil-Aggregate in Place by Nuclear Methods
ASTM D 3665	Random Sampling of Paving Materials
ASTM D 4318	Liquid Limit, Plastic Limit, and Plasticity Index Soils

**End of Item 304.3**

SPECIAL PROVISION SECTION 306  
RECLAIMED MATERIAL FOR STABILIZED BASE

Add the following:

“306 Recycled Pavement

306-1.1 Description. - This item shall include the construction of a subbase course composed of a blend of existing bituminous concrete pavement and existing granular base material. The existing materials shall be crushed or pulverized and blended by mechanical means to obtain the required aggregate blends specified in Table 1, Gradation Requirements. The processed base material shall be compacted and fine-graded on the prepared sub-grade in accordance with these specifications and in conformity with the dimensions and typical sections shown on the plans.

This item shall include the crushing, pulverizing, and blending of existing bituminous concrete pavement and existing granular base course at the locations and depths designated on the plans or as determined by the Engineer. The mix may be obtained by either in-place pulverization or by removing materials and processing them through a crusher and returning the reconstituted base into place. Any excess processed material shall be stockpiled on Airport property as described by the Engineer. This item shall include all necessary equipment to process and blend the existing materials.

This item shall include all necessary saw-cutting, crushing of existing pavement, screening, fine-grading and compacting the base course.

306-2.1 Materials. - The cold mixed recycled base material, after the crushing, rotomilling, hammermilling, and screening shall conform to the following gradation requirements for each section:

Table 1: Gradation Requirements

<u>Sieve Size</u>	<u>Blend*</u>	<u>Design Gradation Range – Percentage by Weight Passing Sieves</u>
3”	100	100
#10	50	20-100
#40	22	5-60
#200	6	0-15

306-3.1 - Sawed Joints. Where indicated on the plans at runway and taxiway intersections the existing pavement shall be sawed to its full depth so as to prepare a sawed construction joint for subsequent re-saw and sealing as directed by the Engineer. Use of pneumatic pavement breakers is prohibited.

306-3.2 - Crushing and Mixing. It is the intent of this Specification to make it the sole responsibility of the Contractor to achieve the specified graded stabilized base course utilizing existing material and imported stone with his own method and his reconstitution/blending equipment to the satisfaction of the Engineer, the Owner, and the Federal Aviation Administration in accordance with the project specifications.

Should the Contractor be unable to meet the scheduling requirements of the project using one reconstitution/blending machine he shall, at the direction of the Engineer, use two machines capable of producing the specified reclaimed base course material for the entire project. It is the Contractor's responsibility to meet the production and gradation requirements of this item, therefore, no additional compensation will be paid for the requirement of the Engineer to add equipment to meet the schedule and or gradation.

If there is a non-uniformity in the gradation of the finished pulverized material due to the Contractor's method of his equipment the Contractor at his own expense has the responsibility to:

- (a) Scalp out oversized pieces of broken pavement and cobbles, and;
- (b) Import additional offsite crushed aggregate of the gradation necessary to obtain the uniformity graded specified base material, and;
- (c) Blend this imported aggregate with the existing crushed material, and;
- (d) Remove the extra waste created by importing offsite material, or;
- (e) Set up an on-site crusher plant, crush the existing material to the specified gradation, and then place, fine grade and compact the plant crushed material to the limits shown on the typical section and as directed by the Engineer.

306-3.3 - Unsuitable Material. Any exposed cobbles 3" or greater in diameter within the reconstituted area shall be "pulled-out" and washed.

306-3.4 - Placing and Compacting. The pulverized material shall be placed to the width and depths as shown on the plans. The stabilized base course material shall be thoroughly compacted by rolling in layers not exceeding 10" in depth. The rolling shall continue at a range of plus or minus 1% of optimum moisture content and shall continue until the base material has been compacted to not less than 100% density as determined by the Engineer using ASTM D 1557.

306-3.5 - Acceptance Sampling and Testing for Density. Reclaimed base course shall be accepted for density on a lot basis. A lot will consist of one day's production where it is not expected to exceed 2,400 square yards (2,000 square meters). A lot will consist of one-half day's production where a day's production is expected to consist of between 2,400 and 4,800 square yards.

Each lot shall be divided into two equal sublots. One test shall be made for each subplot. Sampling locations will be determined by the Engineer on a random basis in accordance with statistical procedures contained in ASTM D 3665.

Each lot will be accepted for density when the field density is at least 100 percent of the maximum density of laboratory specimens prepared from samples of the base course material delivered to the job site. The specimens shall be compacted and tested in accordance with ASTM D 1557. The in-place field density shall be determined in accordance with ASTM D 1556 or D 2167. If the specified density is not attained, the



entire lost shall be reworked and/or recompacted and two additional random tests made. This procedure shall be followed until the specified density is reached.

In lieu of the core method of field density determination, acceptance testing may be accomplished using a nuclear gage in accordance with ASTM D 2922. The gage should be field calibrated in accordance with paragraph 4 of ASTM D 2922. Calibration tests shall be conducted on the first lot of material placed that meets the density requirements.

Use of ASTM D 2922 results in a wet unit weight, and when using this method, ASTM D 3017 shall be used to determine the moisture content of the material. The calibration curve furnished with the moisture gages shall be checked as described 7 of ASTM D 3017. The calibration checks of both the density and moisture gages shall be made at the beginning of a job and at intervals as determined by the Engineer.

If a nuclear gage is used for density determination, two random readings shall be made for each subplot.

306-3.6 - Finishing and Surface Testing. After the course has been satisfactorily compacted, the surface shall be tested for smoothness and accuracy of grade and crown. Any portion lacking the required smoothness or failing in accuracy of grade or crown shall be corrected until the smoothness and accuracy are obtained. The finished surface shall not vary more than ¼ inch from a 16-foot straight edge when applied to the surface parallel with, and at right angles to, the centerline. Surface irregularities greater than ¼ inch shall be corrected by additional fine grading and compacting.

306-3.7 - Thickness. The thickness of the base course shall be determined at intervals in such a manner that each test shall represent no more than 1,000 square yards. When the thickness deficiency is greater than ½ inch, the Contractor shall make the required corrections as approved by the Engineer.

306-3.8 - Protection. Work on the base course shall not be accomplished at temperatures lower than 40° F, nor when the sub-grade is frozen or excessively wet. Any damage resulting to the reclaimed base course from equipment shall be repaired by the Contractor at his cost.

306-3.9 - Preparation Underlying Course. The underlying course shall be checked and accepted by the Engineer before placing and spreading operations are started. Any ruts or soft, yielding places due to improper drainage conditions, hauling, or any other cause, shall be corrected and rolled to the required density before the base course is placed thereon.

Grade control between the edges of pavement shall be accomplished by grade stakes at intervals sufficiently close that string lines or check boards may be placed between the stakes.

To protect the underlying course and to insure proper drainage, the spreading of the base shall begin along the centerline of the pavement on a crowned section or on the high side of the pavement with a one-way slope.

306-4.1 Method of Measurement. - The quantity of cold-mixed recycled base course to be paid for shall be the number of square yards of base course prepared and accepted in the completed base course area. No separate measurement will be made for any stockpiling of material required by this item.

306-5.1 Basis of Payment. - The accepted quantity of cold-mix recycled base course will be paid for at the contract unit price per square yard which price shall be full compensation for performing the work specified, including testing, crushing, mixing, blending, and screening the existing bituminous concrete pavement and existing granular base material and for transporting, handling, placing, compacting, and grading the cold-mixing base course material, and furnishing all labor, tools, equipment and incidentals necessary to complete the work.

Payment shall be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
306.1            Reclaimed Material for Subbase	Square Yard

**End of Item 306**

SPECIAL PROVISION SECTION 403  
HOT BITUMINOUS PAVEMENT

Add the following:

“403.3 Airfield Pavement

403.3-1.1 Description. This item shall consist of surface and base courses composed of mineral aggregate and binder materials mixed in a central mixing plant and placed as a bituminous mixture pavement in accordance with these Specifications and shall conform to the lines, grades, thicknesses, and typical cross-sections shown on the Contract Drawings. Each bituminous mixture course shall be rolled, finished, and approved before the placement of the next course.

403.3-2.1 Aggregate. Aggregates shall consist of crushed stone with other inert finely divided mineral aggregate. The portion of materials retained on the 2.36 mm (No. 8) sieve shall be known as coarse aggregate, the portion passing the No. 8 sieve and retained on the 0.075 mm (No. 200) sieve as fine aggregate, and the portion passing the 0.075 mm (No. 200) sieve as mineral filler.

- a. Coarse aggregate shall consist of sound, tough, durable particles, free from adherent films of matter that would prevent thorough coating and bonding with the bituminous material and be free from organic matter and other deleterious substances. The percentage of wear shall not be greater than 40 percent when tested in accordance with ASTM C131. The sodium sulfate soundness loss shall not exceed 10 percent, or the magnesium sulfate soundness loss shall not exceed 13 percent, after five cycles, when tested in accordance with ASTM C88.

Crushed aggregate shall contain at least 50 percent by weight of crushed pieces having two or more fractured faces and 65 percent having at least one fractured face. The area of each face shall be equal to at least 75% of the smallest mid-sectional area of the piece. When two fractures are contiguous, the angle between planes of fractures shall be at least 30 degrees to count as two fractured faces. Fractured faces shall be obtained by artificial crushing.

The aggregate shall not contain more than 8 percent, by weight, of flat or elongated pieces when tested in accordance with ASTM D4791. A flat particle is one having a ratio of length to width greater than five.

The aggregate shall be as dust free as possible. If in the opinion of the Engineer that the aggregate is excessively dusty and is a contributing factor to poor test results, the Contractor shall then wash the aggregate prior to it being introduced into the plant for mixing.

- b. Fine Aggregate shall consist of clean, sound, durable, angular particles produced by crushing stone that meets the requirements for wear and soundness specified for coarse aggregate. The aggregate particles shall be free from coatings of clay, silt, or other objectionable matter and shall contain no clay balls. The fine aggregate, including any blended filler, shall have a plasticity index of not more than 6, and a liquid limit of not more than 25 when tested in accordance with ASTM D 4318.

Natural sand may be used to obtain the gradation of the aggregate blend or to improve the workability of the mix. The amount of sand to be added will be adjusted to produce mixtures conforming to requirements of this specification. The fine aggregate shall not contain more than 10 percent natural sand by weight of total aggregates.

The aggregate shall have sand equivalent values of 35 or greater when tested in accordance with ASTM D2419.

- c. Sampling. All aggregate samples for preliminary acceptance by testing of the Engineer shall be furnished by the Contractor. ASTM D75 shall be used in sampling coarse aggregate and fine aggregate, and ASTM C183 shall be used in sampling mineral filler. All samples of aggregate will be taken in the presence of the Engineer. Initial tests by the Engineer will be at no expense to the Contractor. Costs for testing additional sources or retesting out of specifications materials shall be borne by the Contractor. No aggregate shall be used in the production of mixtures without prior approval of the Engineer.

403.3-2.2 Mineral Filler. If filler, in addition to that naturally present in the aggregate, is necessary, it shall meet the requirements of ASTM D242.

403.3-2.3 PG Binder Material. The 403.3 Bituminous Material shall be performance grade asphalt binder PG 64-28. It is the intent of this Specification to replace the outdated industry viscosity grading system (in this Specification, AC-20) with the Performance Graded ("Superpave") grading system (in this Specification, PG 64-28).

The Contractor shall furnish vendor's certified test reports for each carload or equivalent of PG binder shipped to the project. The report shall be delivered to the Engineer before permission is granted for use of the material. The furnishing of the vendor's certified test report for the binder material can be used for acceptance or tested independently by the Engineer.

403.3-2.4 Preliminary Material Acceptance. Prior to delivery of materials to the job site, the Contractor shall submit certified test reports to the Engineer for the following materials for approval:

- a. Coarse Aggregate
  - (1) Percent of wear.
  - (2) Soundness.
- b. Fine Aggregate
  - (1) Liquid limit.
  - (2) Plastic index.
  - (3) Sand equivalent.
- c. Mineral Filler
- d. PG Binder Material - The certifications shall show the appropriate PG, grading tests for each material, the test results, and a statement that the material meets the Specification requirement.

The Engineer will require samples for testing, prior to and during production, to verify the quality of the materials and to ensure conformance with the applicable Specifications.

403.3-2.5 Thin Layer Density Gauge. The Contractor shall have on site a thin layer density gauge, Model 4640-B, as manufactured by Troxler Electronic Laboratories, Inc. of North Carolina, or approved equal, during all paving operations. The Contractor shall also supply a NETTCP Certified HMA Paving Inspector during all paving operations to calibrate the density gauge and obtain accurate density readings for all new bituminous mixture. These densities shall be supplied to the Engineer upon request at any time during construction. No separate payment will be made for supplying the density gauge and technician. These costs shall be incidental to the contract unit prices for 403.3 "Airfield Pavement"

403.3-3.1 Composition of Mixture. The bituminous plant mix shall be composed of a mixture of well-graded aggregate, filler if required, and binder material. The several aggregate fractions shall be sized, handled in separate groups, and combined in such proportions that the resulting mixture meets the grading requirements of the job mix formula (JMF).

403.3-3.2 Job Mix Formula. No bituminous mixture for payment shall be produced until a job mix formula has been approved by the Engineer. The bituminous mixture shall be designed using procedures contained in Chapter III, Marshall Method of Mix Design, of the Asphalt Institute's Manual Series No. 2 (MS-2), current edition, and shall meet the requirements of Tables 1 and 2 of this Specification.

The design criteria in Table 1 are target values necessary to meet the acceptance requirements contained in paragraph 403.3-5.2b. The criteria is based on a production process which has a material variability with the following standard deviations:

Stability (lbs.) =	270
Flow (0.01 inch) =	1.5
Air Voids (%) =	0.65

If material variability exceeds the standard deviations indicated, the job mix formula and subsequent production targets should be based on a stability greater than shown in Table 1, and the flow and air voids should be targeted close to the mid-range of the criteria in order to meet the acceptance requirements.

If the Tensile Strength Ratio (TSR) of the composite mixture, as determined by ASTM D 4867, is less than 75, the aggregates shall be rejected or the asphalt shall be treated with an approved anti-stripping agent. The amount of anti-stripping agent added to the asphalt shall be sufficient to produce a TSR of not less than 75. If anti-stripping agent is required it will be provided by the Contractor at no additional cost.

The job mix formula shall be submitted in writing by the Contractor to the Engineer at least 20 calendar days prior to the start of paving operations and shall include as a minimum:

- a. Percent passing each sieve size.
- b. Percent of PG 64-28.
- c. Number of blows of hammer compaction per side of molded specimen.
- d. Mixing temperature.

- e. Compaction temperature.
- f. Temperature of mix when discharged from the mixer.
- g. PG Binder test results.
- h. Plot of the combined gradation of the Federal Highway Administration (FHWA) 45-power gradation curve.
- i. Graphical plots of stability, flow, air voids, voids in the mineral aggregate, and unit weight verses asphalt content.
- j. Percent fractured faces.
- k. Percent elongated particles.
- l. Tensile Strength Ratio (TSR) in accordance with ASTM D 4867 with the following exceptions (1) all compacted specimens shall have an air void range of  $7 \pm 1\%$  and (2) the degree of saturation shall be 70% - 80%. Freeze thaw conditioning is not required.
- m. Anti-stripping agent and amount if required.

The Contractor shall submit samples to the Engineer, upon request, for job mix formula verification testing.

The job mix formula shall be in effect until modified in writing by the Engineer. Should a change in sources of materials be made, a new job mix formula must be approved by the Engineer before the new material is used.

After the initial pavement production JMF has been approved by the Engineer and a new or modified JMF is required for whatever reason, the subsequent cost of the Engineer's approval of the new or modified JMF will be borne by the Contractor. There will be no time extension given or considerations for extra costs associated with the stoppage of pavement production or restart of pavement production due to the time needed for the Engineer to approve the initial, new or modified JMF.

Table 1. Marshal Design Criteria

Test Property	Pavements Designed for Aircraft Gross Weights Less Than 60,000 Lbs. or Tire Pressures of Less Than 100 psi
Number of Blows	50
Stability, pounds minimum (newtons)	1350 (4450)
Flow, 0.25 mm (0.01 in.)	10-18
Air voids (percent)	2.8-4.2
Percent voids in mineral aggregate, minimum	See Table 2

Table 2. Minimum Percent Voids in Mineral Aggregate

Maximum Particle Size (Table 3)	Minimum Voids in Mineral Aggregate
31.25 mm	13%
25.0 mm	14%
19.0 mm	15%
12.5 mm	16%

The mineral aggregate shall be of such size that the percentage composition by weight, as determined by laboratory screens, will conform to the gradation or gradations specified in Table 3 when tested in accordance with ASTM standard C 136 and C 117.

The gradations in Table 3 represent the limits that shall determine the suitability of aggregate for use from the sources of supply. The aggregate, as selected (and used in the JMF), shall have a gradation within the limits designated in Table 3 and shall not vary from the low limit on one sieve to the high limit on the adjacent sieve, or vice versa, but shall be well graded from coarse to fine. It is preferable to keep the gradation on the coarser side rather than the finer side.

Deviations from the final approved mix design for binder content and gradation of aggregates shall be within the action limits for individual measurements as specified in paragraph 403.3-6.4a. The limits still will apply if they fall outside the master-grading band in Table 3.

The thickness of the course being constructed shall be at least three (3) times greater but not more than five (5) times greater than the nominal maximum size of the aggregate.

**Table 3. Aggregate Bituminous Pavements**

Sieve Size	Percentage by Weight - Passing Sieves Max		
	1/2 " max.	3/4 " max.	1" max
24.0 mm (1 in.)	-	-	100
19.0 mm (3/4 in.)	-	100	76-98
12.5 mm (1/2 in.)	100	79-99	66-86
9.5 mm (3/8 in.)	79-99	68-88	57-77
4.75 mm (No. 4)	58-78	48-68	40-60
2.36 mm (No. 8)	39-59	33-53	26-46
1.17 mm (No. 16)	26-46	20-40	17-37
0.600 mm (No. 30)	19-35	14-30	11-27
0.300 mm (No. 50)	12-24	9-21	7-19
0.150 mm (No. 100)	7-17	6-16	6-16
(No. 200)	3-6	3-6	3-6
Asphalt percent	5.5-8.0	5.0-7.5	4.5-7.0

The aggregate gradations shown are based on aggregates of uniform specific gravity. The percentages passing the various sieves shall be corrected when aggregates of varying specific gravities are used, as indicated in the Asphalt Institute Manual Series No. 2 (MS-2), Appendix A.

### 403.3-3.3 -Recycled Asphalt Concrete.

The use of recycled asphalt concrete shall not be allowed for this Project.

403.3-3.4 Test Section. Prior to full production, the Contractor shall prepare and place a quantity of bituminous mixture for each job mix formula. The amount of mixture should be sufficient to construct a test section 300 feet long and 25 feet wide placed in two lanes, with a longitudinal cold joint, and shall be of the same depth specified for the construction of the course which it represents. The underlying grade or pavement structure upon which the test section is to be constructed shall be the same as the remainder of the course represented by the test section. The equipment used in construction of the test section shall be the same type and weight to be used during actual placement of bituminous mixture for payment at the locations specified in the contract documents.

Three random samples shall be taken at the plant and tested for stability, flow, and air voids in accordance with paragraph 403.3-5.1a(2) and evaluation in accordance with Paragraph 403.3-5.2b. Two random samples of the mixture shall be taken at the plant and tested for aggregate gradation and asphalt content in accordance with paragraphs 403.3-6.2a and 2b and evaluated in accordance with paragraph 403.3-6.4. From one of the random samples a Tensile Strength Ratio test (TSR) in accordance with paragraph 403.3-5.1a (2) shall be performed. Three randomly selected cores shall be taken from the finished pavement mat, and three from the longitudinal joint, and tested in accordance with paragraph 403.3-5.1b (1,2). Random sampling shall be in accordance with procedures contained in ASTM D 3665. The test section will be constructed a minimum of five calendar days prior to actual pavement production.

One sample of the PG binder shall be taken.

Mat density and air voids shall be evaluated in accordance with paragraph 403.3-5.2f(1). Stability and flow shall be evaluated in accordance with paragraph 403.3-5.2f(2). Joint density shall be evaluated in accordance with paragraph 403.3-5.2f(3).

Voids in the mineral aggregate (VMA), for each plant sample, shall be computed in accordance with procedures contained in Chapter III, Marshall Method of Mix Design, of the Asphalt Institute's Manual Series No. 2 (MS-2), Mix Design Methods for Asphalt Concrete.

The test section shall be considered acceptable if all of the following conditions are met:

- 1) stability, flow, mat density, air voids and joint density are 90 percent or more within limits;
- 2) gradation and asphalt content are within the action limits specified in paragraph 403.3-6.4;
- 3) the voids in the mineral aggregate is within the limits of Table 2; and
- 4) the TSR is greater than 75.
- 5) the sample of PG binder meets the requirements for the specified grade

If the initial test section should prove to be unacceptable, the necessary adjustments to the job mix formula, plant operation, placing procedures, and/or rolling procedures shall be made. A second test section shall then be placed. If the second test section also does not meet specification requirements, both sections shall be removed at the Contractor's expense. Additional test sections, as required, shall be constructed and evaluated for conformance to the Specifications. Any additional sections that are not acceptable shall be



removed at the Contractor's expense. Full production shall not begin until an acceptable section has been constructed and accepted by the Engineer. No payment will be made for any test section that does not meet all the parameters specified in Paragraph 403.3-5.2 of this Specification. Once the Engineer has determined that a test section does meet all required parameters, payment will be made in accordance with Paragraph 403.3-8.1 of this Specification.

Job mix control testing shall be performed by the Contractor at the start of plant production and in conjunction with the calibration of the plant for the job mix formula. It should be recognized that the aggregates produced by the plant may not satisfy the gradation requirements or produce a mix that exactly meets the JMF. In those instances, it will be necessary to reevaluate and redesign the mix using plant-produced aggregates. Specimens should be prepared and the optimum binder content determined in the same manner as for the original design tests.

403.3-3.5 Testing Laboratory. The laboratory used to develop the job mix formula shall meet the requirements of ASTM D 3666. A certification signed by the manager of the laboratory stating that it meets these requirements shall be submitted to the Engineer prior to the start of construction. The certification shall contain as a minimum:

- a. Qualifications of personnel; laboratory manager, supervising technician, and testing technicians.
- b. A listing of equipment to be used in developing the job mix formula.
- c. A copy of the laboratory's quality control system.
- d. Evidence of participation in the AASHTO Materials Reference Laboratory (AMRL) Program.

403.3-4.1 Weather Limitations. The bituminous mixture shall not be placed upon a wet surface or when the surface temperature of the underlying course is less than specified in Table 4 below. The temperature requirements may be waived by the Engineer if requested; however, all other requirements including compaction shall be met.

Table 4. Base Temperature Limitations

Mat Thickness	Minimum Base Temperature Deg. F
3 in. or greater	40
Greater than 1 in. but less than 3 in.	45
1 in. or less	50

403.3-4.2 Bituminous Mixing Plant. The Contractor is required to have an approved primary plant and an approved back-up plant with approved stockpiles available in the event of a break down of the primary plant when paving aircraft operation areas.

Plants used for the preparation of bituminous mixture shall conform to the requirements of ASTM D995 with the following changes:

- a. Requirements for All Plants:

- i. Truck scales. The bituminous mixture shall be weighed on approved scales furnished by the Contractor, or on certified public scales at the Contractor's expense. Such scales shall be inspected and sealed as often as the Engineer deems necessary to assure their accuracy.
- ii. Plant Testing Laboratory. The Contractor or Producer shall provide a plant testing laboratory for use by the Owner's representative company for acceptance testing functions during periods of payment production, sampling and testing and whenever materials subject to the provisions of these Specifications are being supplied or tested. The Owner's representative will always have priority in use of the laboratory. The lab shall have sufficient equipment so that both testing representatives (Owner's and Contractor's) can operate efficiently. The lab shall also meet the requirements of ASTM D3666.

The plant testing laboratory shall have a floor space area of not less than 150 square feet, with a ceiling height of not less than 7-½ feet. The laboratory shall be weather-tight, sufficiently heated in cold weather, air-conditioned in hot weather to maintain temperatures for testing purposes of 70 degrees F ±5degrees F. The plant testing laboratory shall be located on the plant site to provide an unobstructed view, from one of it's windows, of the trucks being loaded with the plant mixed materials.

Laboratory facilities shall be kept clean, and all equipment shall be maintained in proper working condition. The Engineer shall be permitted unrestricted access to inspect the Contractor's laboratory facility and witness quality control activities. The Engineer will advise the Contractor in writing of any noted deficiencies concerning the laboratory facility, equipment, supplies, or testing personnel and procedures. When the deficiencies are serious enough to be adversely affecting test results, the incorporation of the materials into the work shall be suspended immediately and will not be permitted to resume until the deficiencies are satisfactorily corrected.

As a minimum, the plant testing laboratory shall have:

- (1) Adequate artificial lighting
- (2) Electrical outlets sufficient in number and capacity for operating the required testing equipment and drying samples
- (3) Fire extinguishers (2), Underwriter's Approved
- (4) Work benches for testing, minimum 2-½ feet by 10 feet
- (5) Desk with 2 chairs
- (6) Sanitary facilities convenient to testing laboratory
- (7) Exhaust fan to outside air, minimum 12" blade diameter

- (8) A direct telephone line and telephone including a FAX machine, operating 24 hours per day, seven days a week
- (9) File cabinet with lock for Engineer
- (10) Sink with running water, attached drain board and drain
- (11) Metal stand for holding washing sieves
- (12) Two element hot plate or other comparable heating device, with dial type thermostatic controls for drying aggregates
- (13) Mechanical shaker and appropriate sieves (listed in JMF, Table 3) meeting the requirements of ASTM E-11
- (14) Marshall testing equipment meeting ASTM D1559, and automatic compaction equipment capable of compacting three specimens of at once
- (15) Oven, thermostatically controlled, inside minimum 1 cubic foot
- (16) Two volumetric specific gravity flasks, 500 CC
- (17) Other necessary hand tools required for sampling and testing
- (18) Library containing contract specification, latest ASTM volumes 4.03 and 4.04, AASHTO tests parts I and II, and Asphalt Institute Publications MS-2 and SS-1
- (19) Equipment for Theoretical Specific Gravity including a 4000 CC pycnometer, vacuum pump capable of maintaining 30 ml mercury pressure and a balance, 16-20 kilograms with accuracy of 0.5 grams
- (20) Extraction equipment, centrifuge and reflux types
- (21) A masonry saw with diamond blade for trimming 6" pavement cores

Equipment necessary required to perform Tensile Strength Ratio tests in accordance with ASTM D4867.

Approval of the plant and testing laboratory by the Engineer requires all the above facilities and equipment to be in good working order during pavement production, sampling and testing. Failure to provide any of the above shall be sufficient course for disapproving the bituminous mixture plant operations.

The Owner shall have access to the lab at the plant seven days a week, 24 hours per day.

- iii. Inspection of plant. The Engineer, or his authorized representative, shall have access, at all times, to all areas of the plant for checking adequacy of equipment; inspecting operation of the plant, verifying weights, proportions, and character of materials; and checking the temperatures maintained in the preparation of the mixtures.
- iv. Storage bins and surge bins. Paragraph 3.9 of ASTM D995 is deleted. Instead, the following applies: Use of surge bins or storage bins for temporary storage of bituminous mixture will be permitted as follows:
  - (1) The bituminous mixture may be stored in surge bins for a period of time not to exceed 3 hours.
  - (2) The bituminous mixture may be stored in insulated storage bins for a period of time not to exceed 24 hours, provided an inert gas atmosphere is maintained in the bin during the storage period, and prior approval has been obtained from the Engineer.
  - (3) The bins shall be such that mix drawn from them meets the same requirements as mix loaded directly into trucks.
  - (4) If the Engineer determines that there is an excessive amount of heat loss, segregation or oxidation of the mixture due to temporary storage, no overnight storage will be allowed.

403.3-4.3 Hauling Equipment. Trucks used for hauling bituminous mixtures shall have tight, clean, smooth metal beds. To prevent the mixture from adhering to them, the beds shall be lightly coated with a minimum amount of paraffin oil, lime solution, or other approved material. Each truck shall have a suitable cover to protect the mixture from adverse weather. When necessary, to insure that the mixture will be delivered to the site at the specified temperature, truck beds shall be insulated and covers shall be securely fastened.

403.3-4.4 Bituminous Pavers. Pavers shall be self propelled units, on steel or rubber-cleated tracks with an activated screed or strike off assembly, heated, and shall be capable of spreading and finishing courses of bituminous mixture which will meet the specified thickness, smoothness, and grade. The paver shall have sufficient power to propel itself and the hauling equipment without adversely affecting the finish grade.

The pavers shall have a receiving hopper of sufficient capacity to permit a uniform spreading operation. The hopper shall be equipped with a distribution system to place the mixture uniformly in front of the screed without segregation. The screed or strike-off assembly shall effectively produce a finished surface of the required evenness and texture without tearing, shoving, or gouging the mixture.

The pavers shall be capable of operating at forward speeds consistent with satisfactory laying of the mixture.

The pavers shall be equipped with quick and efficient steering devices and shall have reverse as well as forward traveling speeds.

The pavers shall employ mechanical devices such as equalizing runners, straight-edge runners, evenner arms, or other compensating devices to adjust the grade and confine the edges of the mixture without segregation, in layers to the depths and widths required. They shall be equipped with blending or joint-leveling devices for smoothing and adjusting all longitudinal joints between adjacent strips or courses of the same thickness.

Each paving machine shall be equipped with fully automatic hydraulic and electronic controls, including a moving reference line, and shall be capable of following automatically a fixed or moving reference line. It shall have an electronic slope controller, which shall be capable of maintaining constant cross slopes or of varying the cross slopes as necessary at curve transitions.

The transverse slope controller shall be capable of maintaining the screed at the desired slope within plus or minus 0.1 percent.

The controls shall be capable of working in conjunction with any of the following attachments:

- a. Ski-type device of not less than 30 feet in length or as directed by the Engineer.
- b. Taut string line (wire) set to grade.
- c. Short ski or shoe.
- d. Laser control.

The screed shall be adjustable for profile and shall have an indicating level attached. The adjustments shall be capable of quick response to electronic control devices.

An approved device will be required for heating the screed to the temperature required for laying of the mixtures without pulling or marring.

If, during construction, it is found that the spreading and finishing equipment in use leaves tracks or indented areas, or produces other permanent blemishes in the pavement and/or base course that are not satisfactorily corrected by the scheduled operations, the use of such equipment shall be discontinued and satisfactory equipment provided by the Contractor.

403.3-4.5 Rollers. Rollers shall be of the vibratory, steel wheel, or pneumatic-tired typed. They shall be in good condition, capable of reversing without backlash, and operating at slow speeds to avoid displacement of the mixture. The number, type, and weight of rollers shall be sufficient to compact the mixture to the required density while it is still in a workable condition without detrimentally affecting the compacted material. The use of equipment which causes excessive crushing of the aggregate will not be permitted.

If directed by the Engineer, the Contractor shall supply a water truck with spray bar or other approved spraying device capable of watering new pavement to assist in decreasing pavement temperatures at all times during rolling operations. This equipment shall be used for additional cooling as required. The Engineer shall evaluate the need for this additional cooling. No additional payment shall be made for

supplying the water truck with operator. The costs associated with this requirement shall be included in the contract unit price for bituminous mixture.

403.3-4.6 Preparation of the PG Asphalt Binder. The PG asphalt binder shall be heated to the specified temperature in a manner that will avoid local overheating and provide a continuous supply of the binder to the mixer at a uniform temperature. The temperature of the binder delivered to the mixer shall be sufficient to provide a suitable viscosity for adequate coating of the aggregate particles, but shall not exceed 325 degrees F.

403.3-4.7 Preparation of Mineral Aggregate. The aggregate for the mixture shall be heated and dried to the temperature designated by the job mix formula within the job tolerance specified prior to introduction into the mixer. The maximum temperature and rate of heating shall be such that no damage occurs to the aggregates. The temperature of the aggregate and mineral filler shall not exceed 350 degrees F when the asphalt is added. Particular care shall be taken that aggregates high in calcium or magnesium content are not damaged by overheating. The temperature shall not be lower than is required to obtain complete coating and uniform distribution on the aggregate particles and to provide a mixture of satisfactory workability.

403.3-4.8 Preparation of the Bituminous Mixture. The aggregates and the PG binder shall be weighed or metered and introduced into the mixer in the amount specified by the job mix formula.

The combined materials shall be mixed until the aggregate obtains a uniform coating of binder and is thoroughly distributed throughout the mixture. Wet mixing time shall be the shortest time, but not less than 25 seconds, that will produce a satisfactory mixture. It (wet mixing time) shall be established by the Contractor and approved by the Engineer, based on the procedure for determining the percentage of coated particles described in ASTM D2489, for each individual plant and for each type of aggregate used. The wet mixing time will be set to achieve 95 percent of coated particles. For continuous mix plants, the minimum mixing time shall be determined by dividing the weight of its contents at operating level by the weight of the mixture delivered per second by the mixer. The moisture content of the mix shall not exceed 0.5 percent.

403.3-4.9 Preparation of the Underlying Surface. Immediately before placing the bituminous mixture, the underlying course shall be cleaned of all dust and debris. A prime coat or tack coat shall be applied in accordance with Item 410.1 or 409.15 of the Contract Specifications.

403.3-4.10 Transporting, Spreading, and Finishing. Prior to the placement of the bituminous mixture, the Contractor shall prepare a laydown plan for approval by the Engineer. The laydown plan shall include the laydown location by stations, width of the area, temporary ramp location(s), and laydown temperature. The laydown plan shall also include estimated time of completion for each portion of the work (i.e., milling, paving, rolling, cooling, etc.)

The mixture shall be transported from the mixing plant to the point of use in vehicles conforming to the requirements of paragraph 403.3-4.3. Deliveries shall be scheduled so that spreading and rolling of all mixture prepared can be completed during the scheduled closure period. Hauling over freshly placed material shall not be permitted until the material has been compacted, as specified, and allowed to cool to atmospheric temperature.

If the Contractor places any out of specification mix in the project work area, he is required to remove it at his own expense, to the satisfaction of the Engineer. If the Contractor has to continue placing non-payment bituminous mixture on runways and taxiways, as directed by the Engineer, to make the surfaces safe for aircraft operations, the Contractor shall do so to the satisfaction of the Engineer. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LEAVE THE RUNWAY, TAXIWAY, APRON, AND/OR RAMP SURFACES BEING PAVED IN A SAFE CONDITION READY FOR AIRCRAFT OPERATIONS. NO CONSIDERATION FOR EXTENDED CLOSURE TIME OF THE AREA BEING PAVED WILL BE GIVEN. As a first order of work for the next paving shift, the Contractor will remove and replace all out-of-specification material with approved material to the satisfaction of the Engineer. When the above situations occur, there will be no consideration given for additional construction time or payment for extra costs.

Immediately before placing the mixture, the underlying course shall be cleared of all loose or deleterious material with power blowers, power brooms, or hand brooms as directed.

The mixture shall be placed and compacted at a temperature suitable for obtaining density, surface smoothness, and other specified requirements. The moisture content of the mix shall not exceed 0.5%.

Edges of existing bituminous mixture pavement abutting the new work shall be saw cut and carefully excavated as shown on the Drawings and painted with bituminous tack coat before the new material is placed against it, and then re-sawed and sealed after the paving has been completed.

Upon arrival, the new mixture shall be spread to the full width by a paver. It shall be struck off in a uniform layer of such depth that, when the work is completed, it shall have the required thickness and shall conform to the grade and contour indicated. The speed of the paver shall be regulated to eliminate pulling and tearing of the bituminous mat. Unless otherwise directed, placing shall begin along the centerline of areas to be paved on a crowned section or on the high side of areas with a one-way slope. The mixture shall be placed in consecutive adjacent strips having a minimum width of 10 feet, except where edge lanes require strips less than 10 feet to complete the area. The longitudinal joint in one layer shall offset that in the layer immediately below by at least 1 foot, however, the joint in the top course shall be at the centerline of the pavement. Transverse joints in one layer shall be offset by at least 10 feet from transverse joints in the previous layer. Transverse joints in adjacent lanes shall be offset a minimum of 10 feet.

In making joints along any adjoining pavement edge and after the mixture is placed by the mechanical spreader, just enough of the hot material shall be raked to fill any space left open. These joints shall be properly set up with the back of the rake at the proper height and level to receive the maximum compaction. The work of setting up these joints shall be performed only by competent workmen. Excess material along the pavement joint shall be raked back beyond the area of newly placed pavement. Indiscriminate casting of material on the new screeded surface, where irregularities are not evident, shall not be permitted.

On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impractical, the mixture may be spread, raked, and luted by hand tools.

When hand spreading is permitted, the mixture shall be dumped on approved dump sheets outside of the area upon which it is to be spread, and then distributed into place immediately with hot shovels. It shall be spread with hot rakes in a uniformly loose layer to the full width required and of such depth that, when the

work is completed, it will have the required thickness and will conform to the grade and surface contour shown on the Drawings.

403.3-4.11 Compaction of Mixture. After placing, the mixture shall be thoroughly and uniformly compacted with power rollers. The surface shall be rolled when the mixture has attained sufficient stability so that the rolling does not cause undue displacement, cracking or shoving. The sequence of rolling operations and the type of rollers used shall be at the discretion of the Contractor.

The speed of the roller shall, at all times, be sufficiently slow to avoid displacement of the hot mixture and be effective in compaction. Any displacement occurring as a result of reversing the direction of the roller, or from any other cause, shall be corrected at once.

Sufficient rollers shall be furnished to handle the output of the plant. Rolling shall continue until all the surface is of uniform texture, true to grade and cross section, and the required field density is obtained.

To prevent adhesion of the mixture to the roller, the wheels shall be kept properly moistened, but excessive water or soapy water will not be permitted.

Any mixture that becomes loose and broken, mixed with dirt, contains check-cracking, or is in any way defective shall be removed and replaced with fresh hot mixture and immediately compacted to conform to the surrounding area. This work shall be done at the Contractor's expense. Skin patching will not be allowed.

At miscellaneous areas where a roller cannot be utilized, the mixture shall be compacted with approved vibrating compactors. Vibrating compactors shall be manually guided standard commercial type. The units shall weigh not less than 275 pounds, have a tamping plate width not less than 15 inches, be rated at not less than 4,200 vibrations per minute, and be suitably equipped with a standard tamping plate wetting device.

403.3-4.12 Joints. The Contractor will develop in the paving laydown plan, paragraph 403.3-4.10, a scheme that will minimize the number of cold joints in the pavement.

The formation of all joints shall be made in a manner as to ensure a continuous bond between old and new sections of the course and obtain the required density. All joints shall have the same texture, density, and smoothness as other sections of the course.

The roller shall not pass over the unprotected end of the freshly laid mixture except when necessary to form a transverse joint. When necessary to form a transverse joint, it shall be made by means of placing a bulkhead or by tapering the course, in which case the edge shall be cut back to its full depth and width on a straight line to expose a vertical face. In both methods, all contact surfaces shall be given a tack coat of bituminous material before placing any fresh mixture against the joint.

Longitudinal joints which are irregular, damaged, or otherwise defective shall be cut back to expose a clean, sound surface for the full depth of the course. All contact surfaces shall be given a tack coat of bituminous material prior to placing any fresh bituminous mixture against the joint.

Any longitudinal joint which has been left exposed during one paving operation and will be subsequently completed during the next paving operation shall be cut back to expose a clean sound surface for the full



depth of the course. The contact surface shall then be given a tack coat of bituminous material prior to placing any fresh bituminous mixture against the joint.

403.3-4.13 Shaping Edges. While the surface is being compacted and finished, the Contractor shall carefully trim the outside edges of the pavement to the proper alignment. Edges so formed shall be beveled while still hot with the back of a rake or a smoothing iron and thoroughly compacted by tampers or by other satisfactory methods.

403.3-5.1 Acceptance Sampling and Testing. All acceptance sampling and testing necessary to determine conformance with the requirements specified in this section will be performed by the Engineer at no cost to the Contractor. Testing organizations performing these tests shall meet the requirements of ASTM D 3666. All equipment in the Contractor furnished laboratories shall be calibrated by the contractor utilizing an approved calibration agency prior to the start of operations.

- a. Plant-Produced Material. Plant-produced material shall be tested for Marshall properties (stability, flow, voids) on a lot basis. Sampling shall be from material deposited into trucks at the plant or from trucks at the job site. A lot shall consist of:
- one day's production not to exceed 2,000 tons, or
  - a half day's production where a day's production is expected to consist of between 2,000 tons and 4,000 tons, or
  - similar subdivisions for tonnages over 4,000 tons.

Where more than one plant is simultaneously producing material for the job, the lot sizes shall apply separately for each plant.

- (1) Sampling. Each lot will consist of four equal sublots. Sufficient material for preparation of test specimens will be sampled by the Engineer on a random basis, in accordance with the procedures contained in ASTM D 3665. One set of laboratory compacted specimens will be prepared for each subplot in accordance with ASTM D 1559, paragraph 4.5, at the number of blows required by paragraph 403.3-3.2, Table 1. Each subplot will consist of three (3) laboratory compacted specimens. A complete lot will therefore contain a total of twelve (12) laboratory compacted specimens. These samples shall be tested for stability, flow and voids as described in Paragraph 403.3-5.1.2.

In addition to the sampling outlined above, the Engineer will also obtain one sample on a random basis, in accordance with ASTM D3665, for TSR testing. One TSR test will be conducted for every 12 lots of material produced. TSR testing shall be in accordance with ASTM D 4867 with the following exceptions: (1) all compacted specimens shall have air voids in the range of  $7 \pm 1\%$  and (2) the degree of saturation shall be 70% - 80%. Freeze-thaw conditioning is not required.

The sample of bituminous mixture may be put in a covered metal tin and placed in an oven for not more than 30 minutes to maintain the heat. The compaction temperature of the specimens should be as specified in the job mix formula.

In addition to the bituminous mixture samples, the Contractor shall take two, one quart samples of the PG binder used to produce the bituminous mixture, for each four (4) lots of material produced. The PG samples shall be turned over to the Engineer.

- (2) Testing. Sample specimens shall be tested for stability, flow and voids in accordance with ASTM D 1559 and D 3203.

Prior to testing, the bulk specific gravity of each test specimen shall be measured by the Engineer in accordance with ASTM D 2726 or D 1188, whichever is applicable, for use in computing air voids. For air voids determination, the theoretical specific gravity of the mixture shall be measured in accordance with ASTM D 2041, Type C, D or E container. The value used in the air voids computation for each subplot shall be based on the maximum specific gravity measurement for the subplot.

TSR determination shall be performed in accordance with ASTM D 4867 with the revisions noted in Paragraph 403.3- 5.1.a(1).

The stability, flow and voids for each subplot shall be computed by averaging the results of all test specimens representing that subplot.

- (3) Acceptance. Acceptance of plant produced material for stability, flow, and air voids shall be determined by the Engineer in accordance with the requirements of paragraph 403.3-5.2b.

Acceptance of plant produced material for TSR shall be determined by the Engineer in accordance with the requirements of paragraph 403.3-5.2.f(4).

Acceptance of PG binder material shall be determined by the Engineer.

- b. Field Placed Material. Material placed in the field shall be tested for mat and joint density on a lot basis.

- (1) Mat Density. The lot size shall be the same as that indicated in paragraph P403.3-5.1a and shall be divided into four equal sublots. The Contractor shall take one core of the finished, compacted material from each subplot.

Core locations will be determined by the Engineer on a random basis in accordance with procedures contained in ASTM D 3665. Cores shall not be taken closer than one foot from a transverse or longitudinal joint.

- (2) Joint Density. The lot size shall be the total length of longitudinal joints constructed by a lot of material as defined in paragraph 403.3-5.1a. The lot shall be divided into four equal sublots and one (1) core will be taken on the longitudinal joint for each subplot.

Core locations will be determined by the Engineer on a random basis in accordance with procedures contained in ASTM D 3665.

- (3) Sampling. Samples shall be neatly cut with a core drill. The cutting edge of the core drill bit shall be of hardened steel or other suitable material with diamond chips embedded in the metal cutting edge. The minimum diameter of the sample shall be six inches (6"). Samples that are clearly defective, as a result of sampling, shall be discarded and another sample taken. The Contractor and the Engineer shall both agree as to whether a core is defective or not prior to testing. The Contractor shall furnish all tools, labor, and materials for cutting samples and filling the cored pavement. Cored holes shall be filled in a manner acceptable to the Engineer immediately after sampling.
- (4) Testing. The bulk specific gravity of each core will be measured by the Engineer in accordance with ASTM D 2726 or D 1188, whichever is applicable. The percent compaction (density) of each sample will be determined by dividing the bulk specific gravity of each subplot by the average bulk specific gravity of all laboratory prepared specimens for the lot, as determined in paragraph 403.3-5.1a(2)
- (5) Acceptance. Acceptance of field placed material for mat density will be determined by the Engineer in accordance with the requirements of paragraph 403.3-5.2c. Acceptance for joint density will be determined in accordance with the requirements of paragraph 403.3-5.2d.

- c. Partial Lots - Plant-Produced Material. When operational conditions cause a lot to be terminated before the specified number of tests have been made for the lot, the following procedure will be used to adjust the lot size and the number of tests for the lot.

The last batch produced where production is unexpectedly halted will be sampled and its properties shall be considered as representative of the particular subplot from which it was taken. Where three sublots are produced, they shall constitute a lot. Where one or two sublots are produced, they shall be incorporated into the next lot and the total number of sublots shall be used in the acceptance plan calculation, i.e.  $n = 5$  or  $n = 6$ , for example.

- d. Partial Lots - Field Placed Material. The lot size for field placed material shall correspond to that of the plant material, except that in no cases less than (3) cored samples shall be obtained, i.e.,  $n = 3$ .

#### 403.3-5.2 Acceptance Criteria.

- a. General. Acceptance will be based on the following characteristics of the bituminous mixture and completed pavement as well as the implementation of the Contractor's Quality Control plan and test results:

- (1) Stability
- (2) Flow
- (3) Air voids
- (4) TSR
- (5) PG Asphalt Binder
- (6) Thickness
- (7) Smoothness
- (8) Grade

Stability, flow, air voids, mat density and joint density will be evaluated for acceptance on a lot basis using the method of estimating percentage of material within specification limits (PWL). Acceptance using PWL considers the variability (standard deviation) of the material and the testing procedures, as well as the average (mean) value of the test results to calculate the percentage of material that is above the lower specification tolerance limit (L) or below the upper specification tolerance limit (U).

Stability, flow, and air voids, mat density and joint density will be evaluated for acceptance in accordance with paragraph 403.3-5.2.b.

Thickness will be evaluated by the Engineer for compliance in accordance with paragraph 403.3-5.2.f(6). Acceptance for smoothness will be based on criteria contained in paragraph 403.3-5.2.f(7). Acceptance for grade will be based on the criteria contained in paragraph 403.3-5.2.f(8).

The Engineer may at any time, notwithstanding previous plant acceptance, reject and require the Contractor to dispose of any batch of bituminous mixture which is rendered unfit for use due to contamination, segregation, incomplete coating of aggregate, or improper mix temperature. Such rejection may be based on only visual inspection or temperature measurements. In the event of such rejection, the Contractor may take a representative sample of the rejected material in the presence of the Engineer, and if he can demonstrate in the laboratory in the presence of the Engineer, that such material was erroneously rejected, payment will be made for the material at the contract unit price.

- b. Stability, Flow, Air Voids. Acceptance of each lot of plant produced material for stability, flow, and air voids shall be based on the percentage of material within specification limits (PWL). The PWL plan considers the variability (standard deviation) of the material and the testing procedures, as well as the average (mean) value of the test parameter. The Contractor should note that under this plan, producing at the target values contained in Table 1 and the applicable standard deviations listed in paragraph 403.3-3.2, will result in a PWL of 90 or

more. If a material of greater variability is produced, the production target must be adjusted as outlined in paragraph 403.3-3.2 to achieve a PWL of 90 or more.

- c. Mat Density. Evaluation for acceptance of each lot of in-place pavement for mat density shall be based on the percentage of material within specification limits (PWL). The Contractor shall target production quality to achieve 90 PWL or higher.
- d. Joint Density. Evaluation for acceptance of each lot of in-place pavement for joint density shall be based on the percentage of material within specification limits (PWL). The Contractor shall target production quality to achieve 90 PWL or higher.
- e. Percentage of Material Within Specification Limits (PWL). The percentage of material within specification limits (PWL) shall be determined in accordance with procedures specified in Section 110 of the contract articles.
- f. Acceptance Criteria
  - (1) Mat Density and Air Voids. If the PWL of the lot equals or exceeds 90 percent, the lot shall be acceptable. If the PWL is less than 90 percent, payment shall be made in accordance with paragraph 403.3-8.1.a.
  - (2) Stability and Flow. If the PWL of the lot equals or exceeds 90 percent, the lot shall be acceptable. If the PWL is less than 90 percent, the Contractor shall determine the reason and take corrective action. If the PWL is below 80 percent, the Contractor must stop production and make adjustments to the mix.
  - (3) Joint Density. If the PWL of the lot equals or exceeds 90 percent, the lot shall be acceptable. If the PWL is less than 90 percent, the Contractor shall evaluate the method of compacting joints. If the PWL is below 80 percent, the Contractor shall stop production until the reason for poor compaction can be determined.
  - (4) Tensile Strength Ratio (TSR). If the TSR equals or exceeds 85, the plant produced material is acceptable. If the TSR is below 85, the Contractor shall stop production and report to the Engineer in writing what adjustments will be made to correct the problem. Production will not resume until this procedure is followed and approved by the Engineer.

If the TSR value is below 80 the mixture is to removed and replaced at no cost to the Owner.
  - (5) PG Asphalt Binder. If test results by the Engineer on samples taken during production indicate the binder to be outside the specification requirements the contractor must stop production and correct the problem. Bituminous mixture already placed will be evaluated by the Engineer and will be subject to a decreased payment.

- (6) Thickness. Thickness shall be evaluated for compliance by the Engineer to the requirements shown on the plans. Measurements of thickness shall be made by the Engineer using the cores extracted for each subplot for density measurement.
- (7) Smoothness. The finished surfaces of the pavement shall not vary more than 3/8 inch for base course and 1/4 inch for surface course. Each lot shall be evaluated with a 16-foot straightedge. The lot size shall be 2,000 square yards. Measurements will be made perpendicular and parallel to the centerline at distances not to exceed 50 feet. When more than 15 percent of all measurements within a lot exceed the specified tolerance, the Contractor shall remove the deficient area and replace with new material. Sufficient material shall be removed to allow at least 3 inches of asphalt concrete to be placed. Skin patching shall not be permitted.
- (8) Grade. The finished surface of the pavement shall not vary from the gradeline elevations and cross sections shown on the plans by more than 1/2 inch. The finished grade of each lot will be determined by running levels at intervals of 50 feet or less longitudinally and transversely to determine the elevation of the completed pavement. The lot size shall be 2,000 square yards. When more than 15 percent of all the measurements within a lot are outside the specified tolerance, the Contractor shall remove the deficient area and replace with new material. Sufficient material shall be removed to allow at least 3 inches of asphalt concrete to be placed. Skin patching for correcting low areas shall not be permitted.
- (9) Outliers. All individual tests for in-place air voids and plant air voids shall be checked for outliers (test criterion) in accordance with ASTM E178, at a significance level of 5 percent. Outliers shall be discarded, and the PWL shall be determined using the remaining test values.

Table 5 Acceptable Limits of Stability, Flow, Air Voids, Density

Test Property	Pavements Designed for Aircraft Gross Weights of Less Than 60,000 Lbs. or Tire Pressure Less Than 100 Psi	
	Specification Tolerance	
	L	U
Stability, minimum pounds	1000	-
Flow 0.01-inch	8	20
Air Voids (percent)	2.0	5
Mat Density(percent)	96.3	-
Joint Density (percent)	93.3	-

\* Acceptance limits for Marshall parameters noted in Table 5 are based on laboratory Marshall specimens fabricated using 50 blows by the Marshall hammer.

#### 403.3-5.3 Resampling Pavement.

- a. General. Resampling of a lot of pavement for mat density will be allowed if the Contractor requests, in writing, within 48 hours after receiving the written test results from the Engineer.

A retest will consist of all the sampling and testing procedures contained in paragraphs 403.3-5.1.b and 403.3-5.2.c. Only one resampling per lot will be permitted.

- (1) A redefined PWL shall be calculated for the resampled lot. The number of tests used to calculate the redefined PWL shall include the initial tests made for that lot plus the retests.
  - (2) The cost for resampling and retesting shall be borne by the Contractor.
- b. Payment for Resampled Lots. The redefined PWL for a resampled lot shall be used to calculate the payment for that lot in accordance with Table 6.
- c. Outliers. If the tests within a lot include a very large or a very small value that appears to be outside the normal limits of variation, check for an outlier in accordance with ASTM E 178, at a significance level of 5 percent, to determine if this value should be discarded when computing the PWL.

#### Contractor Quality Control

403.3-6.1 General. The Contractor shall develop a Quality Control Program in accordance with Section 100, Contract Articles. The program shall address all elements that affect the quality of the pavement including, but not limited to:

- a. Mix Design
- b. Aggregate Grading
- c. Quality of Materials
- d. Stockpile Management
- e. Proportioning
- f. Mixing and Transportation
- g. Placing and Finishing
- h. Joints
- i. Compaction
- j. Surface smoothness
- k. Personnel

The Contractor shall provide the Engineer with a certification stating that all of the testing equipment to be used is properly calibrated and will meet the specifications applicable for the specified test procedures. As a part of the process for approving the Contractor's Plan, the Engineer may require the Contractor's technician to perform testing of samples to demonstrate an acceptable level of performance.

The Contractor shall perform quality control sampling, testing, and inspection during all phases of the work and shall perform them at a rate sufficient to ensure that the work conforms to the contract requirements, and at minimum test frequencies required by Paragraph 403.3-6.2 and Contract Articles, Section 100 of this Specification.

No partial payment will be made for materials that are subject to specific quality control requirements without an approved Plan.

The Plan may be operated wholly or in part by the Contractor or an independent organization; however, the Plan's administration, including compliance with the Plan and its modification, shall remain the responsibility of the Contractor.

403.3-6.2 Quality Control Testing. The Contractor shall perform all quality control tests necessary to control the production and construction processes applicable to these Specifications and as set forth in the Quality Control Program. The testing program shall include, but not necessarily limited to, tests for the control of asphalt content, aggregate gradation, temperatures, aggregate moisture, field compaction, and surface smoothness. A Quality Control Testing Plan shall be developed as part of the Quality Control Program.

- a. Asphalt Content. A minimum of two extraction tests shall be performed per lot in accordance with ASTM D 2172 for determination of asphalt content. The weight of ash portion of the extraction test, as described in ASTM D 2172, shall be determined as part of the first extraction test performed at the beginning of plant production; and as part of every tenth extraction test performed thereafter, for the duration of plant production. The last weight of ash value obtained shall be used in the calculation of the asphalt content for the mixture.

The use of the nuclear method for determining asphalt content in accordance with ASTM D 4125 is permitted, provided that it is calibrated for the specific mix being used.

- b. Gradation. Aggregate gradations shall be determined a minimum of twice per lot from mechanical analysis of extracted aggregate in accordance with AASHTO T 30 and ASTM C 136 (Dry Sieve). When asphalt content is determined by the nuclear method, aggregate gradation shall be determined from hot bin samples on batch plants, or from the cold feed on drum mix or continuous mix plants, and tested in accordance with ASTM C 136 (dry sieve) using actual batch weights to determine the combined aggregate gradation of the mixture.
- c. Moisture Content of Aggregate. The moisture content of aggregate used for production shall be determined a minimum of once per lot in accordance with ASTM C 566.
- d. Moisture Content of Mixture. The moisture content of the mixture shall be determined once per lot in accordance with ASTM D 1461.
- e. Temperatures. Temperatures shall be checked, at least four times per lot, at necessary locations to determine the temperatures of the dryer, the bitumen in the storage tank, the mixture at the plant, and the mixture at the job site.
- f. In-Place Density Monitoring. The Contractor shall conduct any necessary testing to ensure that the specified air voids is being achieved. A nuclear gauge as outlined in paragraph 403.3-2.5 shall be used.



- g. Additional Testing. Any additional testing that the Contractor deems necessary to control the process may be performed at the Contractor's option.
- h. Monitoring. The Engineer reserves the right to monitor any or all of the above testing.

**403.3-6.3 Sampling.** When directed by the Engineer, the Contractor shall sample and test any material which appears inconsistent with similar material being sampled, unless such material is voluntarily removed and replaced or deficiencies corrected by the Contractor. All sampling shall be in accordance with standard procedures specified.

**403.3-6.4 Control Charts.** The Contractor shall maintain linear control charts both for individual measurements and range (i.e., difference between highest and lowest measurements) for aggregate gradation and asphalt content.

Control charts shall be posted in a location satisfactory to the Engineer and shall be kept current. As a minimum, the control charts shall identify the project number, the contract item number, the test number, each test parameter, the Action and Suspension Limits applicable to each test parameter, and the Contractor's test results. The Contractor shall use the control charts as part of a process control system for identifying potential problems and assignable causes before they occur. If the Contractor's projected data during production indicates a problem and the Contractor is not taking satisfactory corrective action, the Engineer may suspend production or acceptance of the material.

- a. Individual Measurements. Control charts for individual measurements shall be established to maintain process control within tolerance for aggregate gradation and asphalt content. The control charts shall use the job mix formula target values as indicators of central tendency for the following test parameters with associated Action and Suspension Limits:

#### CONTROL CHART LIMITS FOR INDIVIDUAL MEASUREMENTS

Sieve	Action Limit	Suspension Limit
25 mm (1 inch)	0%	0%
19.0 mm (3/4 inch)	±6%	±11%
12.5 mm (1/2 inch)	±6%	±9%
9.5 mm (3/8 inch)	±6%	±9%
4.75 mm (No. 4)	±6%	±9%
1.18 mm (No. 16)	±5%	±7.5%
0.30 mm (No. 50)	±3%	±4.5%
0.075 mm (No. 200)	±2%	±3%
Asphalt Content	±0.45%	±0.70%

- b. Range. Control charts for range shall be established to control process variability for the test parameters and Suspension Limits listed below. The range shall be computed for each lot as the difference between the two test results for each control parameter. The Suspension Limits specified below are based on a sample size of  $n = 2$ . Should the Contractor elect to perform more than two tests per lot, the Suspension Limits shall be adjusted by multiplying the Suspension Limit by 1.18 for  $n = 3$  and by 1.27 for  $n = 4$ .

## CONTROL CHART LIMITS BASED ON RANGE

(Based on n = 2)

Sieve	Suspension Limit
19.0 mm (¾ inch)	11 percent
12.5 mm (½ inch)	11 percent
9.5 mm (3/8 inch)	11 percent
4.75 mm (No. 4)	11 percent
1.18 mm (No. 16)	9 percent
0.30 mm (No. 50)	6 percent
0.075 mm (No. 200)	3.5 percent
Asphalt Content	0.8 percent

- c. **Corrective Action.** The Quality Control Plan shall indicate that appropriate action shall be taken when the process is believed to be out of tolerance. The Plan shall contain sets of rules to gauge when a process is out of control and detail what action will be taken to bring the process into control. As a minimum, a process shall be deemed out of control and production stopped and corrective action taken, if:

- (1) One point falls outside the Suspension Limit line for individual measurements or range; or
- (2) Two points in a row fall outside the Action Limit line for individual measurements.

**403.3-6.5 Quality Control Reports.** The Contractor shall maintain records and shall submit reports of quality control activities daily, in accordance with the Quality Control Plan described in the Contract Articles, Section 100 of this Specification.

**403.3-7.1 Method of Measurement.** Plant mix “403.3 Airfield Pavement” shall be measured by the ton. The tonnage shall be the weight used in the accepted pavement. No deductions will be made for the weight of binder material in the mixture. Recorded batch weights or truck scale weights will be used to determine the basis for tonnage.

In the event that the average thickness of test cores taken from the completed bituminous mixture pavement exceeds the specified thickness of each course by more than one-quarter of an inch per layer, the tonnage for the completed pavement will be computed by deducting from the gross tonnage of the pavement an amount equal to the excess thickness taken over the entire layer's area.

**403.3-8.1 Basis of Payment.** Payment for an accepted lot of bituminous mixture pavement shall be made at the contract unit price per ton adjusted according to paragraph 403.3-8.1a, subject to the limitation that:

The total project payment for bituminous mixture pavement shall not exceed 100 percent of the product of the contract unit price and the total number of tons of bituminous mixture pavement used in the acceptable work (See Note 2 under Table 6).

This price shall be full compensation for furnishing all materials, for all preparation, mixing, and placing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

- a. Basis of Adjusted Payment. The pay factor for each individual lot shall be calculated in accordance with Table 6. A pay factor shall be calculated for both mat density and plant air voids. The lot pay factor shall be the higher of the two values when calculations for both mat density and plant air voids are 100 percent or higher. The lot pay factor shall be the product of the two values when only one of the calculations for either mat density or plant air voids is 100 percent or higher. The lot pay factor shall be the lower of the two values when calculations for both mat density and plant air voids are less than 100 percent.

TABLE 6. PRICE ADJUSTMENT SCHEDULE <sup>1</sup>

Percentage of Material Within the Specification Limit (PWL)	Percent of Contract Unit Price to be Paid
96-100	103
90-95	PWL + 7
75-89	0.5*PWL + 55
55-74	1.4*PWL - 12
Below 55	Reject <sup>2</sup>
<sup>1</sup> Although it is theoretically possible to achieve a pay factor of 103 percent for each lot, actual payment above 100 percent shall be subject to the total project payment limitation specified in Paragraph 403.3-8.1.	
<sup>2</sup> The lot shall be removed and replaced. However, the Engineer and Owner may decide to accept the deficient lot. In that case, if the Engineer and Owner agree in writing that the lot shall not be removed, it will be paid for at 50 percent of the contract price and the total project payment limitation shall be reduced by the amount withheld for the rejected lot.	

For each lot accepted, the adjusted contract unit price shall be the product of the lot pay factor for the lot and the contract unit price. Payment shall be subject to the total project payment limitation specified in paragraph 403.3-8.1. Payment in excess of 100 percent for accepted lots of bituminous concrete pavement shall be used to offset payment for accepted lots of bituminous concrete pavement that achieve a lot pay factor less than 100 percent.

<u>Pay Item</u>	<u>Pay Unit</u>
403.3 Airfield Pavement	Ton

#### TESTING REQUIREMENTS

ASTM C 88	Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C 117	Test Method for Materials Finer than 75-um (No.200) Sieve in Mineral Aggregates by Washing
ASTM C 131	Resistance to Abrasion of Small Size Coarse Aggregate by Use of the Los Angeles Machine
ASTM C 136	Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C 566	Total Moisture Content of Aggregate by Drying
ASTM D 75	Sampling Aggregates

ASTM D 995	Requirements for Mixing Plants for Hot-Mixed Hot-Laid Bituminous Paving Mixtures
ASTM D 1188	Bulk Specific Gravity of Compacted Bituminous Mixtures Using Paraffin-Coated Specimens
ASTM D 1461	Moisture or Volatile Distillates in Bituminous Paving Mixtures
ASTM D 1559	Resistance to Plastic Flow of Bituminous Mixtures Using Marshall Apparatus
ASTM D 2041	Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
ASTM D 2172	Quantitative Extraction of Bitumen from Bituminous Paving Mixtures
ASTM D 2419	Sand Equivalent Value of Soils and Fine Aggregate
ASTM D 2489	Degree of Particle Coating of Bituminous-Aggregate Mixtures
ASTM D 2726	Bulk Specific Gravity of Compacted Bituminous Mixtures Using Saturated Surface-Dry Specimens
ASTM D 3203	Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures
ASTM D 2950	Density of Bituminous Concrete in Place by Nuclear Method
ASTM D 3665	Random Sampling of Paving Materials
ASTM D 3666	Inspection and Testing Agencies for Bituminous Paving Materials
ASTM D 4125	Asphalt Content of Bituminous Mixtures by the Nuclear Method
ASTM D 4318	Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D 4791	Flat or Elongated Particles in Coarse Aggregate
ASTM D 4867	Effect of Moisture on Asphalt Concrete Paving Mixtures
ASTM E 178	Practice for Dealing With Outlying Observations
AASHTO T 30	Mechanical Analysis of Extracted Aggregate
The Asphalt Institute's Manual No. 2 (MS-2) Mix Design Methods for Asphalt Concrete	
The Asphalt Institute's Manual (SP-1) Performance Graded Asphalt Binder Specifications and Testing	
The Asphalt Institute's Superpave Level 1 Mix Design Manual (SP-2)	

#### MATERIAL REQUIREMENTS

ASTM D 242	Mineral Filler for Bituminous Paving Mixtures
ASTM D 946	Asphalt Cement for Use in Pavement Construction

**End of Item 403.3**

SPECIAL PROVISION SECTION 410  
BITUMINOUS SURFACE TREATMENT

Add the following:

“410.1 Bituminous Prime Coat

410-1.1 Description - This item shall consist of an application of bituminous material on the prepared base course in accordance with these specifications and in close conformity to the lines shown on the plans.

410-2.1 Bituminous Material. The types, grades, controlling specifications, and application temperatures for the bituminous materials are given in Table 1. The Engineer shall designate the specific material to be used.

TABLE 1. BITUMINOUS MATERIAL

Type and Grade	Specification	Application Temperatures*	
		Deg. F	Deg. C
<u>Emulsified Asphalt</u>			
SS-1, SS-1h	ASTM D 977	70 - 160	20 - 70
MS-2, HFMS-1	ASTM D 977	70 - 160	20 - 70
CSS-1, CSS-1h	ASTM D 2397	70 - 160	20 - 70
CMS-2	ASTM D 2397	70 - 160	20 - 70
<u>Cutback Asphalt</u>			
RC-30	ASTM D 2028	80+	30+
RC-70	ASTM D 2028	120+	50+
RC-250	ASTM D 2028	165+	75+

\* The maximum temperature for cutback asphalt shall be that at which fogging occurs.

CONSTRUCTION METHODS

410-3.1 Weather Limitations. The prime coat shall be applied only when the existing surface is dry or contains sufficient moisture to get uniform distribution of the bituminous material, when the atmospheric temperature is above 60°F (15°C), and when the weather is not foggy or rainy. The temperature requirements may be waived, but only when so directed by the Engineer.

410-3.2 Equipment. The equipment used by the Contractor shall include a self-powered pressure bituminous material distributor and equipment for heating bituminous material.

The distributor shall be designed, equipped, maintained, and operated so that bituminous material at even heat may be applied uniformly on variable widths of surface at the specified rate. The allowable variation from the specified rate shall not exceed 10 percent. Distributor equipment shall include a tachometer, pressure gages, volume-measuring devices or a calibrated tank, and a thermometer for measuring

temperatures of tank contents. The distributor shall be self-powered and shall be equipped with a power unit for the pump and full circulation spray bars adjustable laterally and vertically.

A power broom and/or blower shall be provided for any required cleaning of the surface to be treated.

410-3.3 Application of Bituminous Material. Immediately before applying the prime coat, the full width of the surface to be primed shall be swept with a power broom to remove all loose dirt and other objectionable material.

The bituminous material including solvent shall be uniformly applied with a bituminous distributor at the rate of 0.25 to 0.50 gallons per square yard (1.20 to 2.40 liters per square meter) depending on the base course surface texture. The type of bituminous material and application rate shall be approved by the Engineer prior to application.

Following the application, the primed surface shall be allowed to dry not less than 48 hours without being disturbed or for such additional time as may be necessary to permit the drying out of the prime until it will not be picked up by traffic or equipment. This period shall be determined by the Engineer. The surface shall then be maintained by the Contractor until the surfacing has been placed. Suitable precautions shall be taken by the Contractor to protect the primed surface against damage during this interval, including supplying and spreading any sand necessary to blot up excess bituminous material.

410-3.4 Bituminous Material - Contractor's Responsibility. Samples of the bituminous materials that the Contractor proposes to use, together with a statement as to their source and character, must be submitted and approved before use of such material begins. The Contractor shall require the manufacturer or producer of the bituminous materials to furnish material subject to this and all other pertinent requirements of the contract. Only satisfactory materials, so demonstrated by service tests, shall be acceptable.

The Contractor shall furnish vendor's certified test reports for each carload, or equivalent, of bituminous material shipped to the project. The report shall be delivered to the Engineer before permission is granted for use of the material. The furnishing of the vendor's certified test report for the bituminous material shall not be interpreted as basis for final acceptance. All such test reports shall be subject to verification by testing samples of materials received for use on the project.

410-3.5 Freight and Weigh Bills. Before the final estimate is allowed, the Contractor shall file with the Engineer receipted bills when railroad shipments are made, and certified weigh bills when materials are received in any other manner, of the bituminous materials actually used in the construction covered by the contract. The Contractor shall not remove bituminous material from the tank car or storage tank until the initial outage and temperature measurements have been taken by the Engineer, nor shall the car or tank be released until the final outage has been taken by the Engineer. Copies of freight bills and weigh bills shall be furnished to the Engineer during the progress of the work.

410-4.1 Method of Measurement- The bituminous material for prime coat shall be measured by the gallon. Volume shall be corrected to the volume at 60°F (15°C) in accordance with ASTM D 1250 for cutback asphalt, and Table IV-3 of The Asphalt Institute's Manual MS-6 for emulsified asphalt.

410-5.1 Basis of Payment - Payment shall be made at the contract unit price per gallon for bituminous prime coat. This price shall be full compensation for furnishing all materials and for all preparation, delivering, and applying the materials, and for all labor, equipment, tools, and incidentals necessary to complete this item.

<u>Pay Item</u>	<u>Pay Unit</u>
Item 410.1     Bituminous Prime Coat	per Gallon

MATERIAL REQUIREMENTS

ASTM D 977	Emulsified Asphalt
ASTM D 2028	Asphalt, Cutback (Rapid Curing Grade)
ASTM D 2397	Cationic Emulsified Asphalt

TESTING REQUIREMENTS

ASTM D 1250	Petroleum Measurement Tables
Asphalt Institute	Temperature-Volume Corrections for Emulsified Asphalts Manual MS-6 Table IV-3

**End of Item 410**

SPECIAL PROVISION SECTION 615  
LOAM

Add the following:

METHOD OF MEASUREMENT

Loam will be measured for payment by the area of loam placed at the depths indicated on the plans, after finishing in units of 1,000 ft<sup>2</sup> along the slope of the ground. The quantity of loam measured for payment will be the number of units shown in the schedule of items in the contract. The quantity shall be considered final, no adjustments will be made, except when the actual area loamed varies from the number of units shown in the schedule of items by more than 15 percent.

BASIS OF PAYMENT

615.06 The accepted quantities of loam will be paid for at the contract unit price per unit complete in place. Existing topsoil removed from within the lines of improvement and stockpiled for later use as loam will be paid for under Pay Item 203.22, Unclassified Excavation, after removal and stockpiling, and will be paid for under Pay Item 615.0701, Loam, when placed in its final position.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
615.0701	Unit

**End of Item 615**



SPECIAL PROVISION SECTION 627  
PAVEMENT MARKINGS

Add the following:

“627.9 Pavement Painting.

627.9-1.1 Description - The work included under this section of these specifications shall consist of the painting and temporary marking of numbers, markings, and stripes on the surface of runways, taxiways, and aprons, in accordance with these specifications and at the locations shown on the plans, or as directed by the Engineer.

627.9-2.1 - Materials. The Contractor shall furnish manufacturer’s certified test reports for materials shipped to the project. The certified test reports shall include a statement that the materials meet the specification requirements. The reports can be used for material acceptance or the Engineer may perform verification testing. The reports shall not be interpreted as a basis for payment. The Contractor shall notify the Engineer upon arrival of a shipment of materials to the site.

627.9-2.2 - Paint. Paint shall be waterborne in accordance with the requirements of paragraph 627.9-2.2a. Paint shall be furnished in yellow in accordance with Federal Standard No. 595. Paint shall be furnished in Type I -- Standard drying time for no-pick-up when tested in accordance with ASTM D 711.

a. Waterborne. Paint shall meet the requirements of Federal Specification TT-P-1952.

627.9-2.3 - Reflective Media. Glass beads shall meet the requirements of Fed. Spec. TT-B-1325, Type I - Gradation A or Type III. Glass beads shall be treated with adhesion promoting and/or flotation coatings as specified by the manufacturer of the paint.

627.9-3.1 - Pavement Painting.

- a. Weather Limitations. The painting shall be performed only when the surface is dry and when the surface temperature is at least 45 degrees F (7 degrees C) and rising. The Engineer may specify a lower temperature based on the paint manufacturer’s recommendations.
- b. Equipment. Equipment shall include the apparatus necessary to properly clean the existing surface, a mechanical marking machine, a bead and/or silica sand dispensing machine, and such auxiliary hand-painting equipment as may be necessary to satisfactorily complete the job.

The mechanical marker shall be an atomizing spray-type marking machine suitable for application of traffic paint. It shall produce an even and uniform film thickness at the required coverage and shall apply markings of uniform cross sections and clear-cut edges without running or spattering and without over spray.

- c. Preparation of Surface. Immediately before application of the paint, the surface shall be dry and free from dirt, grease, oil, laitance, or other foreign material which would reduce the bond between the

paint and the pavement. The area to be painted shall be cleaned by sweeping and blowing or by other methods as required to remove all dirt, laitance, and loose materials.

- d. Layout of Markings. The proposed markings shall be laid out in advance of the paint application.
- e. Application. Paint shall be applied at the locations and to the dimensions and spacing shown on the plans. Paint shall not be applied until the layout and condition of the surface have been approved by the Engineer.

The paint shall be mixed in accordance with the manufacturer's instructions and applied to the pavement with a marking machine at the rate(s) shown in Table 1. The addition of thinner will not be permitted. The Contractor shall wait the manufacturer's recommended time between placement of a bituminous surface course and application of the paint.

Table 1. Application Rates for Paint and Glass Beads

Paint Type	Paint Square feet per gallon, ft <sup>2</sup> /gal (Square meters per liter, m <sup>2</sup> /l)	Glass Beads, Type I, Gradation A Pounds per gallon of paint--lb./gal. (Kilograms per liter of paint--kg/l)	Glass Beads, Type III Pounds per gallon of paint--lb./gal. (Kilograms per liter of paint--kg/l)
Waterborne	115 ft <sup>2</sup> /gal. maximum (2.8 m <sup>2</sup> /l)	7 lb/gal. minimum (0.85 kg/l)	12 lb./gal. minimum (1.45 kg/l)

The edges of the markings shall not vary from a straight line more than ½-inch (12 mm) in 50 feet (15 m), and the dimensions shall be within a tolerance of plus or minus 5 percent.

Glass beads shall be distributed upon the marked areas at the locations shown on the plans to receive glass beads immediately after application of the paint. A dispenser shall be furnished which is properly designed for attachment to the marking machine and suitable for dispensing glass beads. Glass beads shall be applied at the rate(s) shown in Table 1. Glass beads shall not be applied to black paint. Glass beads shall adhere to the cured paint or all marking operations shall cease until corrections are made.

All emptied containers shall be returned to the paint storage area for checking by the Engineer. The containers shall not be removed from the airport or destroyed until authorized by the Engineer.

- f. Protection. After application of the paint, all markings shall be protected from damage until the paint is dry. All surfaces shall be protected from disfiguration by spatter, splashes, spillage, or drippings of paint.

627.9-4.1 Method of Measurement - Pavement Painting. The amount of pavement painting to be paid for shall be the number of square feet of pavement surface painted, complete in conformance with these specifications, the Contract Drawings, or as directed and accepted by the Engineer.

627.9-5.1 Basis of Payment - Pavement Painting. Payment will be made at the Contract unit price per square foot for pavement painting for each and every square foot of painted pavement surface completed and accepted, measured as specified above, which price and payment thereof shall constitute full compensation for all labor, materials, equipment, expenses and incidentals for completing the painting to the complete satisfaction of the Engineer.

Pay Item

Pay Unit

Item 627.9 Pavement Painting

Square Foot

Testing Requirements

ASTM C 146	Chemical Analysis of Glass Sand
ASTM C 371	Wire-Cloth Sieve Analysis of Nonplastic Ceramic Powders
ASTM D 92	Test Method for Flash and Fire Points by Cleveland Open Cup
ASTM D 711	No-Pick-Up Time of Traffic Paint
ASTM D 968	Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive
ASTM D 1652	Test Method for Epoxy Content of Epoxy Resins
ASTM D 2074	Test Method for Total Primary, Secondary, and Tertiary Amine Values of Fatty Amines by Alternative Indicator Method
ASTM D 2240	Test Method for Rubber Products-Durometer Hardness
ASTM G 53	Operating Light and Water-Exposure Apparatus (Florescent UV-Condensation Type) for Exposure of Nonmetallic Materials
Federal Test Method Std.	Paint, Varnish, Lacquer and Related Materials; Methods of Inspection, No. 141 Sampling and Testing

**MATERIAL REQUIREMENTS**

ASTM D 476	Specifications for Titanium Dioxide Pigments
Code of Federal Regulations	40 CFR Part 60, Appendix A
	29 CFR Part 1910.1200
Fed. Spec. TT-B-1325	Beads (Glass Spheres) Retroreflective
Fed. Spec. TT-P-85	Paint, Traffic and Airfield Marking, Solvent Base
Fed. Spec. TT-P-110	Paint, Traffic Black (Nonreflectorized)
Fed. Spec. TT-P-1952	Paint, Traffic and Airfield Marking, Waterborne
Federal Standard 595	Colors Used in Government Procurement

**End of Item 627.9**

SPECIAL PROVISION SECTION 639  
ENGINEERING FACILITIES

Add the following paragraph to section 639.04 Field Offices:

“The contractor will be granted use of an existing on site facility designated on the plans for use as a field office. It will be the contractor’s responsibility to ensure that all services and materials required by these specifications are provided throughout the duration of the project.”

**End of Item 639**

## SPECIAL PROVISION SECTION 715 LIGHTING MATERIAL

Add the following:

### “715.2 Airfield Lighting

715.2.1 General. This work under this section of these specifications shall consist of installing new base mounted, medium intensity elevated runway and taxiway edge lights. This specification also covers the installation of L-867 light base hand holes. The work shall include removal and delivery to the Owner of the existing light fixtures, removal and legal disposal of the existing isolation transformers, furnishing and installing of all required fixtures, lamps and isolation transformers, relocating of fixtures where required, furnishing and installing cover plates and gaskets; excavation and concrete foundation; installing light base and extensions making all electrical connections; testing; and all other equipment, materials, services and incidentals necessary to placing the lighting systems in operation.

Except as specified otherwise hereinafter, all work under this section of these specifications shall be in accordance with the latest edition of the FAA Advisory Circulars cited as follows:

#### Advisory Circular Number

150/5340-24	Runway and Taxiway Edge Lighting System
150/5345-42C	Specifications for Airport Light Bases, Transformer Houses, Junction Boxes and Accessories
150/5345-46A	Specification for Runway and Taxiway Light Fixtures
150/5345-47A	Isolation Transformers for Airport Lighting Systems

All work shall be done in accordance with this specification, details and specifications shown on the plans, and as directed by the Engineer.

## EQUIPMENT AND MATERIALS

### 715.2.2.1 General.

- a. Airport lighting equipment and materials covered by FAA specification numbers shall have the prior approval of the Federal Aviation Administration.
- b. All other equipment and materials not covered by FAA specification numbers shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification as described herein.

715.2.2.2 Taxiway Edge Lights. New taxiway edge lights will be medium intensity type conforming to the requirements of FAA specifications L-861-T.

715.2.2.3 Runway Edge Lights. New runway edge lights will be medium intensity type conforming to the requirements of FAA specifications L-861.

715.2.2.4 Runway End Lights. New runway end lights will be medium intensity type conforming to the requirements of FAA specifications L-861-SE.

715.2.2.5 Lamps. Lamps for the Elevated Taxiway lights will be 6.6 ampere, 60 cycle, bi-pin quartz lamps, wattage as shown on the contract drawings conforming to the applicable cited specifications.

715.2.2.6 Globe. Globes shall be colored as shown on the Contract Drawings.

715.2.2.7 Isolation Transformers. Transformers will conform to the requirements of FAA Specification L-830 and will be 60 cycle, 6.6A/6.6A rated. Wattage of transformers will be sufficient to power lamps as specified above.

715.2.2.8 Light Bases. Runway and Taxiway edge lights and for handholes shall conform to the requirements of FAA Specification L-867 (Non-Load Bearing) and shall be L-867, Class I, Size B (12 inch diameter) and 24" deep. Provide exterior ground lug.

715.2.2.9 Blank Cover Plates. Blank cover plates shall be ¾ inch steel cover plate conforming to the Requirements of FAA Specification L-868 for each runway edge light installed. Blank cover plates shall include neoprene gaskets.

715.2.2.10 Cable Connectors. Cable connectors shall be plug-in only conforming to the requirements of FAA specifications L-823.

715.2.2.11 Tape. Tape for secondary isolation transformer electrical connections shall be rubber and plastic Scotch Electrical Tape Numbers 23 and 88 by Minnesota Mining and Manufacturing Company, or an approved equal.

715.2.2.12 Heat Shrink Wrap. All primary isolation transformer electrical connections shall be sealed with heat applied "shrink wrap" tubing as manufactured by Siguraform Corporation or an approved equal.

715.2.2.13 Concrete. Concrete shall conform to Section 502 "Structural Concrete" and shall be 3000 PSI.

715.2.2.14 Bedding Material. Bedding material shall consist of hard, durable particles so graded that 100% will pass a ¼ inch sieve, and not more than 3% will pass a #200 sieve and shall be free from loam, silt, clay, or organic matter.

715.2.2.15 Snow Markers. Snow markers shall be Sherwin Industries, Code #S1503, 42 inch of 2410 Copper Hill Place, Midlothian, Va. 23112, or approved equal. Snow markers shall be FAA approved and shall be provided with each elevated light fixture.

715.2.2.16 Ground Rod and Wire. Ground rod shall be 10 feet long and ½" diameter copper clad steel. Ground wire shall be No. 8 AWG bare copper.

715.2.2.17 PVC Drain. PVC drain shall conform to Specification 715.3 "Installation of Underground Electrical Duct".

715.2.3.1 Construction - General. The Contractor shall furnish all materials to install new runway and taxiway edge lights at the locations shown on the Contract drawing or as directed by the Engineer. The Contractor shall furnish, install and connect all specified equipment, equipment accessories, conduit, cables, wires, grounds and support necessary to insure a complete and operable airport lighting systems as specified herein and shown on the Contract documents.

The installation includes the complete fixtures, lamps, lens, isolation transformers, cable connections, light bases, blank cover plate, neoprene gasket, drain, soil excavation and concrete foundation as shown on the Contract drawings. Reference the drawings for exact installation locations.

The Contractor shall excavate to the lines and grades indicated on the plans and as directed by the Engineer. All unsuitable materials excavated and pavement cores shall be properly disposed of off the Airport's property. All suitable materials shall be stockpiled on the Airport's property at the location shown on the Contract drawings.

Each fixture shall be secure, and properly aimed and oriented in accordance with the referenced FAA advisory circular and the manufacturer's requirements.

The Contractor shall be responsible for the removal and delivery of the existing light fixture to the Owner and removal and legal dispose of the existing isolation transformers. The existing light bases shall be removed.

715.2.3.2 Installation of Light and Light Bases.

- a. In Grass: The new edge lighting systems, isolation transformer and bases shall be installed at the locations indicated on the drawings. The light base installation shall be in conformance with the details shown on the Contract drawings.

715.2.3.3 Handholes. The installation includes the complete L867B-24 inch deep light base, blank cover plate, neoprene gasket, drain, soil excavation, concrete foundation, ground rod and wire as shown on the Contract drawings or as directed by the Engineer.

The Contractor shall excavate to the lines and grades indicated on the plans and as directed by the Engineer. All unsuitable materials excavated and pavement cores shall be properly disposed of off the Airport property. All suitable materials shall be stockpiled on the Airport's property at the disposal location shown on the Contract drawings.

715.2.3.4 Grounding. Each light fixture shall be grounded in accordance with the details shown the Contract drawings.

715.2.3.5 Isolation Transformers. The isolation transformer for new and relocated base mounted elevated lights shall be installed per FAA requirements. Transformers shall be placed in such a manner as to not block the drain.

715.2.3.6 Mounting Fixtures. All light fixtures shall be mounted securely to the base in accordance with the manufacturer's recommendations with stainless steel bolts covered with an anti-seizing compound.

715.2.3.7 Cable Connections. Reference the Contract drawings for L-823 cable connection details.

715.2.3.8 Disposal. The Contractor shall be required to dispose of the existing isolation transformer and light base with concrete foundation. The existing edge light shall be delivered to the Owner.

715.2.3.9 Snow Markers. Snow markers shall be delivered to the Owner.

## METHOD OF MEASUREMENT

715.2.4.1 New L861-T Taxiway Edge Light. The quantity of New L861-T Taxiway Edge Light to be paid for shall be the number of new lights and transformers installed complete, operating and accepted by the Engineer.

715.2.4.2 New L861 Runway Edge Light. The quantity of New L861 Runway Edge Light to be paid for shall be the number of new lights and transformers installed complete, operating and accepted by the Engineer.

715.2.4.3 New L861SE Runway End Light. The quantity of New L861SE Runway End Light to be paid for shall be the number of new lights and transformers installed complete, operating and accepted by the Engineer.

715.2.4.4 New L867B Handhole. The quantity of New L867B Handhole to be paid for shall be the number of handholes installed complete and accepted by the Engineer.

## BASIS OF PAYMENT

715.2.4.1 New L861-T Taxiway Edge Light. Payment shall be made at the Contract unit price for each taxiway edge light and isolation transformer furnished and installed, measured as specified above, which prices, and the payment thereof shall constitute full compensation for all labor, materials, equipment, incidentals and expenses necessary for the satisfactory completion of the installation of the light including removal and delivery of the existing taxiway edge light to the Owner, removal and disposal of the existing isolation transformer, light bases, ground rod and wire, drain pipe, neoprene gaskets, new light unit with specified lens and filters, lamps, isolation transformers, cable connections, heat shrink, snow markers, restoration, testing and readying for operation.

715.2.5.2 New L861 Runway Edge Light. Payment shall be made at the Contract unit price for each new runway edge light and isolation transformer furnished and installed, measured as specified above, which prices, and the payment thereof shall constitute full compensation for all labor, materials, equipment, incidentals and expenses necessary for the satisfactory completion of the installation of the light including removal and delivery of the existing runway edge light to the Owner, removal and disposal of the existing isolation transformer, light bases, ground rod and wire, drain pipe, neoprene gaskets, new light unit with



specified lens and filters, lamps, isolation transformers, cable connections, heat shrink, snow markers, restoration, testing and readying for operation.

715.2.5.3 New L861SE Runway End Light. Payment shall be made at the Contract unit price for each new runway end light and isolation transformer furnished and installed, measured as specified above, which prices, and the payment thereof shall constitute full compensation for all labor, materials, equipment, incidentals and expenses necessary for the satisfactory completion of the installation of the light including removal and delivery of the existing runway edge light to the Owner, removal and disposal of the existing isolation transformer, excavation and disposal, light bases, concrete foundations, backfill, bedding material, ground rods and wire, drain pipe, new light unit with specified lens and filters, lamps, isolation transformers, cable connections, heat shrink, snow markers, restoration, testing and readying for operation.

715.2.5.4 New L867B Handhole. Payment shall be made at the Contract unit price for each new light base hand hole installed, measured as specified above, which prices, and the payment thereof shall constitute full compensation for all labor, materials, equipment, incidentals and expenses necessary for the satisfactory completion of the installation of the light base including excavation and disposal, light bases, steel cover plates and gasket, concrete foundations, backfill, bedding material, ground rods and wire, drain pipe, restoration and readying for use.

<u>Pay Item</u>		<u>Pay Unit</u>
715.2.1	New L861-T Taxiway Edge Light	Each
715.2.2	New L861 Runway Edge Light	Each
715.2.3	New L861SE Runway End Light	Each
715.2.4	New L867B Handhole	Each

**End of Item 715.2**

Add the following:

“715.3 Installation of Underground Electrical duct

715.3.1 General. This item shall consist of underground electrical ducts installed in accordance with this specification at the locations and in accordance with the dimensions, designs, and details shown in the plans. This item shall include the installation of all underground electrical ducts or underground conduits and counterpoise. It shall also include all excavation, trenching, excavate material disposal, backfilling, removal and restoration of any paved areas; concrete encasement, mandreling, installation of nylon pull string and duct markers, capping, coring for conduit connections into existing manholes or existing light bases and the testing of the installation as a completed duct system ready for installation of cables, to the satisfaction of the Engineer.

EQUIPMENT AND MATERIALS

715.3.2.1 Materials. All equipment and materials covered by referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when so required by the Engineer.

715.3.2.2 Concrete. Concrete shall conform to Section 502 “Structural Concrete”. Concrete shall be a minimum of 3000 psi.

715.3.2.3 Plastic Conduit. Plastic conduit and fittings shall conform to the requirements of Fed. Spec. W-C-1094 and shall be one of the following, as specified:

- a. Type EB or A - suitable for underground use encased in concrete.
- b. Schedule 40 PVC - suitable for underground use either directly in the earth or encased in concrete.

715.3.2.4 Bare Copper Wire (COUNTERPOISE/GUARD WIRE). Bare copper wire, No. 8 AWG minimum size, for counter-poise installations shall be stranded wire conforming ASTM Specifications B 3 and B 8.

715.3.2.5 Electric Handhole

Handholes shall be constructed in accordance with the details shown on the Drawings. Frames and covers shall be of the manufacture and type as indicated on the Drawings. Covers shall be imprinted as shown or called for on the Drawings.

Ground rods for the electric handhole shall be as shown on the Drawings. Non-current carrying metal parts in the handholes, including metallic sheathes of cables shall be connected to the ground rods with bare copper conductors.

Handholes shall be precast with 5,000 psi concrete and ASTM A 615, Grade 60 Reinforcement. All Handholes shall meet or exceed AASHTO HS 20-44 Loading Criteria.

715.3.2.6 Samples and Certification. A sample of the material shall be submitted by the Contractor for approval prior to the start of work. A manufacturer's certification that shows that these materials conform to the requirements of this specification shall be provided. The sample submittal and certification shall be completed and approved prior to the start of work. The Contractor shall bear all costs associated with providing the samples and certifications.

715.3.3.1 General. The Contractor shall install underground ducts at the approximate locations indicated in the airport layout plans. The Engineer shall indicate specific locations as the work progresses. Ducts shall be of the size, material, and type indicated in the plans or specifications. Where no size is indicated in the plans or specifications, the ducts shall be not less than 3 inches (75 mm) inside diameter. All duct lines shall be laid so as to grade toward handholes, manholes and duct ends for drainage. Grades shall be at least 3 inches (75 mm) per 100 feet (30 m). On runs where it is not practicable to maintain the grade all one way, the duct lines shall be graded from the center in both directions toward manholes, handholes, or duct ends. Pockets or traps where moisture may accumulate shall be avoided.

The Contractor shall mandrel each duct. An iron-shod mandrel, not more than 1/4-inch (6 mm) smaller than the bore of the duct shall be pushed through each duct by means of jointed conduit rods. The mandrel shall have a leather or rubber gasket slightly larger than the duct hole.

Bare copper counterpoise wire as specified in these specifications shall be installed above each duct in accordance with the details shown on the drawings.

All ducts installed shall be provided with nylon string for pulling the permanent wiring. Sufficient length shall be left in manholes or handholes. Where spare ducts are installed, as indicated on the plans, the open ends shall be plugged with removable tapered plugs, designed by the duct manufacturers, or with hardwood plugs conforming accurately to the shape of the duct and having the larger end of the plug at least 1/4-inch (6 mm) greater in diameter than the duct.

All ducts shall be securely fastened in place during construction and progress of the work and shall be plugged to prevent seepage of grout, water, or dirt. Any duct section having a defective joint shall not be installed.

All ducts, except steel conduit, installed under runways, taxiways, aprons, and other paved areas shall be encased in a concrete envelope.

Where turf is well established and the sod can be removed, it shall be carefully stripped and properly stored.

Trenches for ducts may be excavated manually or with mechanical trenching equipment. Walls of trenches shall be essentially vertical so that a minimum of shoulder surface is disturbed. Blades of road patrols or graders shall not be used to excavate the trench. The Contractor shall ascertain the type of soil or rock to be excavated before bidding. All excavation shall be considered incidental to the electrical duct installation. Surplus excavation material shall be hauled and stockpiled at the location shown on the General Plan.

715.3.3.2 Ducts Encased In Concrete. Unless otherwise shown in the plans, concrete-encased ducts shall be installed so that the top of the concrete envelope is not less than 18 inches (45 cm) below the finished

subgrade where installed under runways, taxiways, aprons, or other paved areas, and not less than 18 inches (45 cm) below finished grade where installed in unpaved areas. Ducts under paved areas shall extend at least 3 feet (90 cm) beyond the edges of the pavement or 3 feet (90 cm) beyond any underdrains, which may be installed alongside the paved area. Trenches for concrete-encased ducts shall be opened the complete length before concrete is laid so that if any obstructions are encountered, proper provisions can be made to avoid them. All ducts for concrete encasements shall be placed on a layer of concrete not less than 3 inches (75 mm) thick prior to its initial set. Where two or more ducts are encased in concrete, the Contractor shall space them not less than 1-1/2 inches (37 mm) apart (measured from outside wall to outside wall) using spacers applicable to the type of duct. As the duct laying progresses, concrete not less than 3 inches (75 mm) thick shall be placed around the sides and top of the duct bank. End bells or couplings shall be installed flush with the concrete encasement where required.

When specified, the Contractor shall reinforce the bottom side and top of encasements with steel reinforcing mesh or fabric or other approved metal reinforcement. When directed, the Contractor shall supply additional supports where the ground is soft and boggy, where ducts cross under roadways, or where otherwise shown on the plans. Under such conditions, the complete duct structure shall be supported on reinforced concrete footings, piers, or piles located at approximately 5-foot (150 cm) intervals.

When clay or soapstone ducts are specified, they shall be installed with concrete encasement as described above. Clay conduit shall be of the single-bore type. Where the self-centering socket-joint type of single clay duct is used, conduit shall be built up, tier by tier, and separated only by sufficient mortar or fine aggregate concrete to bed the ducts evenly and fill all voids between ducts. Single ducts shall be jointed together and the joints grouted with portland cement mortar. A suitable gasket (of rubber or other approved material) shall first be placed in the receptacle end of the duct, prior to the joining operation, in order to exclude all mortar from the duct.

Where the square bore butt-joint type of clay duct, single or multicell, is used, sections shall be aligned with at least four steel dowel pins and joints wrapped with duct tape 6 inches (150 mm) wide and lapped 6 inches (150 mm). All joints in a bank of single-bore ducts shall be staggered, beginning evenly from the manhole or handhole, by means of short lengths 6, 8, 9, 12, and 15 inches (150, 200, 230, 300, 380 mm) long. Cement mortar shall be trowled around each and every joint. Voids in the duct bank, caused by the external shape of the corners of the conduit, shall also be filled with mortar. The joining and joints of soapstone duct shall be done in accordance with the manufacturer's recommendations.

715.3.3.3 Ducts Without Concrete Encasement. Trenches for single-duct lines shall be not less than 6 inches (150 mm) nor more than 12 inches (300 mm) wide, and the trench for 2 or more ducts installed at the same level shall be proportionately wider. Trench bottoms for ducts without concrete encasement shall be made to conform accurately to grade so as to provide uniform support for the duct along its entire length.

A layer of fine earth material, at least 4 inches (100 mm) thick (loose measurement) shall be placed in the bottom of the trench as bedding for the duct. The bedding material shall consist of soft dirt, sand or other fine fill, and it shall contain no particles that would be retained on a 1/4-inch (6 mm) sieve. The bedding material shall be tamped until firm.

Unless otherwise shown in plans, ducts for direct burial shall be installed so that the tops of all ducts are at least 18 inches (45 cm) below the finished grade.

When two or more ducts are installed in the same trench without concrete encasement, they shall be spaced not less than 2 inches (50 mm) apart (measured from outside wall to outside wall) in a horizontal direction and not less than 6 inches (150 mm) apart in a vertical direction.

Trenches shall be opened the complete length before duct is installed so that if any obstructions are encountered, proper provisions can be made to avoid them.

715.3.3.4 Duct Markers. The location of the ends of all ducts shall be marked by a concrete slab marker 2 feet (60 cm) square and 4 inches (100 mm) thick extending approximately 1 inch (25 mm) above the surface. The markers shall be located above the ends of all ducts or duct banks, except where ducts terminate in a handhole, manhole, or building.

The Contractor shall impress the word "duct" on each marker slab. He shall also impress on the slab the number and size of ducts beneath the marker. The letters shall be 4 inches (100 mm) high and 3 inches (75 mm) wide with width of stroke 1/2-inch (12 mm) and 1/4-inch (6 mm) deep or as large as the available space permits.

715.3.3.5 Core Holes. New core holes shall be installed at the locations shown on the plans or as directed by the Engineer into existing light bases and electrical manholes. The Contractor shall core a hole equal to the outside diameter of the connecting conduit plus 1/4". The core hole shall be made watertight with a neoprene grommet and/or watertight sealant to the satisfaction of the Engineer.

715.3.3.6 Backfilling. After concrete-encased ducts have been properly installed and the concrete has had time to set, the trench shall be backfilled in at least two layers with excavated material not larger than 4 inches (100 mm) in diameter and thoroughly tamped and compacted to at least the density of the surrounding undisturbed soil. If necessary to obtain the desired compaction, the backfill material shall be moistened or aerated as required.

Trenches shall not be excessively wet and shall not contain pools of water during backfilling operations.

The trench shall be completely backfilled and tamped level with the adjacent surface: except that, when sod is to be placed over the trench, the backfilling shall be stopped at a depth equal to the thickness of the sod to be used, with proper allowance for settlement.

Any excess excavated material shall be removed and disposed of in accordance with instructions issued by the Engineer.

For ducts without concrete envelope, 8 inches (200 mm) of sand, soft earth, or other fine fill (loose measurement) shall be placed around the ducts and carefully tamped around and over them with hand tampers. The remaining trench may be filled with regular run of excavated material and thoroughly tamped as specified above.

715.3.3.7 Restoration. Where sod has been removed, it shall be replaced as soon as possible after the backfilling is completed. All areas disturbed by the trenching, storing of dirt, cable laying, pad construction and other work shall be restored to its original condition. The restoration shall include any necessary

topsoiling, fertilizing, liming, seeding, sprigging, or mulching. All such work shall be performed in accordance with the FAA Standard Turfing Specifications. The Contractor shall be held responsible for maintaining all disturbed surfaces and replacements until final acceptance.

715.3.3.8 Bare Counterpoise Wire Installation and Grounding For Lightning Protection. If shown in the plans or specified in job specifications, a stranded bare copper wire, No. 8 AWG minimum size, shall be installed for lightning protection of the underground cables. The bare counterpoise wire shall be installed in the same trench for the entire length of the insulated cables it is designed to protect, and shall be placed at a distance of approximately 4 inches (100 mm) from the insulated cable.

The counterpoise wire shall also be securely attached to copper or copper-clad ground rods installed not more than 1,000 feet (300 m) apart around the entire circuit. The ground rods shall be of the length and diameter specified in the plans, but in no case shall they be less than 8-feet (240 cm) long nor less than 5/8 inch (15 mm) in diameter.

#### METHOD OF MEASUREMENT

715.3.4.1 Underground Duct. The quantity of underground duct to be paid for shall be the actual number of linear feet of single-way or multi-way duct installed, measured in place to the nearest linear foot along the centerline of the duct run from end or outside face of structure, whichever is applicable, complete including all excavation, except rock trench excavation, conduit, connections, fixtures, endbells, concrete, hauling, disposal, backfilling, compaction, and restoration. No separate measurement will be made for duct markers, counterpoise wire or core holes.

Where multiple lengths of conduit run parallel within a common trench (multi-way), the quantity of duct to be paid for shall be the actual number of linear feet of the common trench line, measured to the nearest linear foot along the centerline of the trench, complete including all excavation, hauling, disposal, backfilling, compaction, and restoration. Separate measurement shall be made for the various types and sizes within a common trench.

715.3.4.2 Electric Handhole. Measurement of handholes shall be the number of handholes actually installed and accepted by the Engineer, complete, in place and ready for use.

#### BASIS OF PAYMENT

715.3.5.1 Concrete Encased Ducts and Conduit. Payment shall be made at the contract unit price per linear foot for each type and size of concrete encased single-way or multi-way duct and conduit completed and accepted. This price shall be full compensation for furnishing all materials and for all excavation, preparation, assembly, and installation of these materials, and for complete restoration of the trench, including loaming, seeding, mulching, fertilizing, duct markers and for all labor, equipment, tools, and incidentals necessary to complete this item. Base course and paving as required by the location of the trench shall be separate under specification 304.3 and 403.3, respectively. Payment for core holes shall be considered incidental to this item and not paid for separately.

715.3.5.2 Unencased Ducts. Payment shall be made at the contract unit price per linear foot for each type and size of unencased single-way or multi-way duct completed and accepted. This price shall be full compensation for furnishing all materials and for all excavation, preparation, assembly, and installation of these materials, and for complete restoration of the trench, including loaming, seeding, mulching, fertilizing, duck markers and for all labor, equipment, tools, and incidentals necessary to complete this item. Base course and paving as required by the location of the trench shall be separately under specification 304.3 and 403.3, respectively.

715.3.5.3 Electric Handhole. Payment for “Electric Handhole” will be made at the contract unit price for each. This price shall be full compensation for furnishing all materials; for placing and finishing; for all excavations; for hauling; for all sheathing, shoring, and pumping; for furnishing and placing all drainage fill; for all backfilling; crushed stone bedding; cleanup; and for furnishing and installing all castings and specials; and for all labor equipment, tools, supplies and incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
715.3.1      2" One-Way PVC Duct - Unencased	linear foot
715.3.2      4" Two-Way PVC Duct –Concrete Encased	linear foot
715.3.3      Electric Handhold	per each

#### MATERIAL REQUIREMENTS

Fed.Spec.W-C-571      Conduit and Fittings, Nonmetal, Rigid; (Asbestos-Cement or Fire-Clay Cement),  
(For Electrical Purposes)

Fed.Spec.W-C-1094      Conduit and Fittings; Nonmetallic, Rigid,(Plastic)

Underwriters Laboratories – Standard 6 - Rigid Metal Conduit

Underwriters Laboratories – Standard 514 - Fittings for Conduit and Outlet Boxes

Underwriters Laboratories – Standard 543 - Impregnated-Fiber Electrical Conduit

Underwriters Laboratories - Standard 1242 - Intermediate Metal Conduit

**End of Item 715.3**

Add the following:

#### “715.4 Installation of Underground Cable for Airports

715.4.1 Description. This item shall consist of furnishing and installing underground cable in accordance with these specifications at the locations shown in the plans. It shall include splicing, cable marking, cable tagging and testing of the installation and all incidentals necessary to place the cable in operating condition as a completed unit to the satisfaction of the Engineer. This item shall not include the installation of the duct or conduit.

### EQUIPMENT AND MATERIALS

#### 715.4.2 General.

- a. Airport lighting equipment and materials covered by Federal Aviation Administration (FAA) specifications shall have the prior approval of the FAA, and are listed in Advisory Circular (AC) 150/5345-1, Approved Airport Equipment.
- b. All other equipment and materials covered by other referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification, when requested by the Engineer.

715.4.2.2 Cable. Underground cable shall conform to the requirements of AC 150/5345-7E, Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits.

Cable type, size, number of conductors, strand and service voltage shall be specified in the plans and/or proposal.

715.4.2.3 Cable Connections. In-line connections of underground primary cables shall be of the type called for in the plans, and shall be one of the types listed below. When the plans or the proposal permit a choice of connection, the Contractor shall indicate in the bid the type of connection he proposes to furnish.

- a. The Field-attached Plug-in Splice. Figure 3 of AC 150/5345-26, Specification for L-823 Plug and Receptacle, Cable Connectors, employing connector kits, is approved for field attachment to single conductor cable. All spliced connections using this method shall be sealed with heat applied “shrink wrap” tubing as manufactured by Siguraform Corp. or approved equal.

715.4.2.4 Cable Tags. Cable tags shall be manufactured of a corrosion proof metal with factory-installed markings designating the circuit as shown on the Contract drawings.

### CONSTRUCTION METHODS

715.4.3.1 General. The Contractor shall install the specified cable at the approximate locations indicated in the airport lighting layout plans.



Cable connections between lights will be permitted only at the light locations for connecting the underground cable to the primary leads of the individual insulating transformers. The Contractor shall be responsible for providing cable in continuous lengths for home runs or other long cable runs without connections, unless otherwise authorized in writing by the Engineer or shown in the plans.

715.4.3.2 Installation In Duct or Conduit. This item includes the installation of the cable in new or existing duct or conduit as described below. The maximum number and voltage ratings of cables installed in each single duct or conduit, and the current-carrying capacity of each cable shall be in accordance with the latest National Electric Code, or the code of the local agency having jurisdiction.

The Contractor shall make no connections or joints of any kind in cables installed in conduits or ducts.

The duct or conduit shall be installed as a separate item in accordance with these Specifications. The Contractor shall make sure that the duct is open, continuous, and clear of debris before installing cable. The cable shall be installed in a manner to prevent harmful stretching of the conductor, injury to the insulation, or damage to the outer protective covering. The ends of all cables shall be sealed with moisture-seal tape before pulling into the conduit and it shall be left sealed until connections are made. Where more than one cable is to be installed in a duct under the same contract, all cable shall be pulled in the duct at the same time. The pulling of a cable through ducts or conduits may be accomplished by handwinch or power winch with the use of cable grips or pulling eyes. Pulling tensions should be governed by recommended standard practices for straight pulls or bends. A lubricant recommended for the type of cable being installed shall be used where pulling lubricant is required. Duct or conduit markers temporarily removed for excavations shall be replaced as required.

715.4.3.3 Cable Tags. Cable tags shall be installed on all new series cables for identification purposes in all manholes, handholes and at cable splices in existing light bases. Cable tags shall be firmly and permanently secured to the cable with a corrosion resistant metal tie.

715.4.3.4 Splicing. Connections of the type shown in the plans shall be made by experienced personnel regularly engaged in this type of work and shall be made as follows:

- a. Field-attached Plug-in Splices. These shall be assembled in accordance with manufacturer's instructions. These splices shall be made by plugging directly into mating connectors. In all cases the joint where the connectors come together shall be wrapped with at least one layer of rubber or synthetic rubber tape and one layer of plastic tape, one-half lapped, extending at least 1-1/2 inches (37 mm) on each side of the joint. All spliced connections using this method shall be sealed with heat applied "shrink wrap" tubing as manufactured by Siguraform Corp. or approved equal.

715.4.3.5 Heat Shrink Kits For L-823 Connectors. The Contractor is responsible for installing heat shrink kits on every new L-823 connector as required. No separate payment shall be made for furnishing and installing these heatshrink kits.

715.4.3.6 Testing. The Contractor shall furnish all necessary equipment and appliances for testing the underground cable circuits after installation. The Contractor shall test and demonstrate to the satisfaction of the Engineer the following:

- a. That all lighting power and control circuits are continuous and free from short circuits.
- b. That all circuits are free from unspecified grounds.
- c. That the insulation resistance to ground of all nongrounded series circuits is not less than 50 megohms.
- d. That the insulation resistance to ground of all nongrounded conductors of multiple circuits is not less than 50 megohms.
- e. That all circuits are properly connected in accordance with applicable wiring diagrams.
- f. That all circuits are operable. Tests shall be conducted that include operating each control not less than 10 times and the continuous operation of each lighting and power circuit for not less than 1/2 hour.
- g. When connecting new cable to an existing circuit, the Contractor shall measure the insulation resistance of the existing cable prior to start of any work. This shall be documented and submitted to the Engineer. After completion of the work, the new cable section and the combined new and existing cable shall be tested.

Should any portion of a circuit fail any of the tests, the Contractor shall make the necessary repairs and retest the circuits. The Contractor will bear all costs associated with retesting of the cable.

#### METHOD OF MEASUREMENT

715.4.4.1 - The quantity of 5KV cable to be paid for shall be the number of linear feet of cable or wire installed in duct or conduit. The quantity will be measured in place, complete, tested, ready for operation, and accepted by the Engineer. The measurement of cable and wire shall be the center-to-center horizontal distance between adjacent light bases, manholes, handholes, or signs. The cable lengths associated with cutting waste, vertical distance or grade change, racking, slack in manholes, handholes, bases and trenches shall not be measured for payment and the cost associated with them shall be considered to be included in the unit bid price of the associated payment item.

715.4.4.2 There shall be no separate measurement for the splices required to install new cable systems as shown on the Contract Drawings. The cost associated with required splices shall be included in the unit bid prices for other items in this section.

715.4.4.3 There shall be no separate measurement for payment associated with installation of circuit identification tags, L-823 connectors and heat shrink kits. The cost associated with these items shall be absorbed into the unit bid prices for cable items in this section.

715.4.4.4 There shall be no separate measurement for payment associated with installation of bare copper wire (counterpoise/guard wire). The cost associated with this item shall be considered incidental.

## BASIS OF PAYMENT

715.4.5.1 Cable installed in Duct or Conduit. Payment for cable installed in duct or conduit will be made at the contract unit price for installation of cable of the type and size designated on the Contract Drawings, in duct, conduit or raceway, complete, in place, tested, labeled, operational, and acceptable to the Engineer. This price shall be full compensation for furnishing all materials and for all preparation and installation of these materials and for all labor, equipment, tools and incidentals necessary to complete the work.

No separate payment shall be made for bare copper wire (counterpoise/guard wire).

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
715.4.1      1/C #8, 5KV L-824 Cable – installed in duct or conduit	per linear foot

## MATERIAL REQUIRMENTS

AC 150/5345-7E	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-26	Specification for L-823 Plug and Receptacle Cable Connectors
Fed.Spec.J-C-30	Cable and Wire, Electrical Power, Fixed Installation
HH-I-595	Insulation Tape, Electrical, Pressure-Sensitive Adhesive, Plastic, for Low-Temperature Application
ASTM B 3	Soft or Annealed Copper Wire
ASTM B 8	Concentric-Lay-Stranded Cooper Conductor, Hard, Medium-Hard, or Soft
MIL-I-3825	Insulation Tape, Electrical, Self-Fusing, For Use in Electronics, Communications, and Allied Equipment
MIL-I-7798	Insulation Tape, Electrical, Pressure-Sensitive Adhesive, Plastic

**End of Item 715.4**

Add the following:

“715.5.1 Vault Work

715.5.1.1 Description. - This item shall consist of furnishing and installing electrical equipment in the existing airport electrical vault in accordance with this specification at the location and in conformance with the design, dimensions, and details shown in the plans. This work will include the furnishing and installation of conduits, wiring, equipment appurtenances and all incidentals necessary to produce a complete unit to the satisfaction of the Engineer.

Included, under this item, will be the furnishing and installation of all new vault equipment, wiring, grounding system, cables, conduit, wireways, vault lighting, controls and appurtenances. This work shall also include the marking and labeling of equipment and wires, the testing of the installation, and the furnishing and installation of all incidentals necessary to place the airport lighting system in operating condition as a complete unit to the satisfaction of the Engineer.

The major equipment to be furnished under this item are scheduled on the drawings. All work included is shown on the contract drawings, and shall include any and all work interior to the existing pilot's lounge.

715.5.2.1 General. Airport Lighting equipment and materials covered by FAA specifications shall have the prior approval of the Federal Aviation Administration, Airports Service, Washington, D.C. 20591, and shall be listed in Advisory Circular 150/5345-1U Approved Airport Lighting Equipment.

All other equipment and materials covered by the other referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when requested by the Engineer.

Due to variations in dimensions of the electrical equipment between manufacturers, shop drawings shall be required of the proposed layout of all equipment to be installed within the vault. The plans indicate only one proposed method of installing the equipment. Variations must be approved by the Engineer and shall be at no additional cost to the owner.

In addition to the submissions of as-built contract documents, one set shall be provided in the vault for all vault equipment. This set shall include lamination of each sheet to prevent damage to the documents.

All circuit breakers, panel boards, contactors, and other electrical equipment shall be rated for short circuit interrupting capacity of 22,000 amperes.

715.5.2.2 Rigid Steel Conduit. Rigid galvanized steel conduit and fitting shall be in accordance with Fed. Spec. WW-C-581. All conduit within the vault and between the vault and the nearest utility pole, handhole, manhole, or telephone handhole shall be rigid galvanized steel and shall be included under this item. Conduit size is scheduled on the plans and shall be ¾ inch minimum.

715.5.2.3 Wire. Wire in conduit rated up to 5,000 volts and 600 volts shall conform to Advisory Circular 150/5345-7D, Specification for L-824, Underground Electrical Cables for Airport Lighting Circuits, and

shall conform to cable specifications included with this contract. Wire sizes are scheduled on the plans. Only copper conductors will be acceptable.

Control Circuits. Wire shall be not less than No. 12 AWG and insulated for 600 volts.

Power Circuits. All power circuit wire shall be shown or scheduled on the plans and conforming to cable specifications included in this contract.

715.5.2.4 Other Electrical Equipment. Panel boards, relays, terminal blocks, circuit breakers, and all other regularly used commercial items of electrical equipment not covered by FAA equipment specifications shall conform to the applicable rulings and standards of the Institute of Electrical and Electronic Engineers or the National Electrical Manufacturer's Association. When specified, test reports from a testing laboratory indicating that the equipment meets the specifications shall be supplied. In all cases, equipment shall be new and a first-grade product. This equipment shall be supplied in the quantities required for the specific project and shall incorporate the electrical and mechanical characteristics specified in the proposal and plans.

715.5.2.5 FAA Approved Equipment. Certain items of airport lighting equipment to be furnished and installed in the vaults are covered by individual FAA equipment specifications. The major equipment specifications are listed in AC 150/5345-10E. "Specifications for constant current Regulators and Regulator Monitors".

Refer to latest edition of A/C 150/5345-3D for L821 control and Type 1, Class F, Style 1; AC 150/5345-10E for L828 constant current Regulators; and AC 150/5340-27A for L854 Radio Control Equipment.

715.5.3.1 Construction Methods - General. The Contractor shall relocate, furnish, install, and connect all equipment accessories, conduit, cables, wires, grounds, and supports necessary to insure a complete and operable electrical distribution center for the airport lighting system as specified herein and shown in the plans. Conduits shall be installed in the floor and through the walls in accordance with the details shown in the plans.

The electrical installation, as a minimum, shall meet the latest National Electrical Code, and all local regulations.

The resistance to ground of the grounding system with commercial power line neutral disconnected shall not exceed 5 OHMS.

All power and control circuit conductors shall be copper; aluminum shall not be accepted. This includes wire, cable, busses, terminals, switch/panel components, etc.

The Contractor shall ascertain that all lighting system components furnished by him (including FAA approved equipment) are compatible in all respects with each other and remainder of the new/existing system. Any non-compatible components furnished by this Contractor shall be replaced by him at no additional cost to the airport sponsor with a similar unit, approved by the Engineer (different model or different manufacturer) that is compatible with the remainder of the airport lighting system.

In case the Contractor selects to furnish and install airport lighting equipment requiring additional wiring, transformers, adapters, mountings, etc., to those shown on the drawings and/or listed in the specifications, any cost for these items shall be incidental to the equipment cost.

715.5.3.2 Distribution Equipment. Circuit breakers, contactors, relays, disconnect switches, panel boards, and other similar items shall be furnished and installed at the location shown in the plans or as directed by the Engineer.

The following shall apply to relay/contactor panel/enclosures:

- All components shall be mounted in dust-proof enclosure(s) with hinged covers.
- The enclosure(s) shall have ample space for the circuit components, terminal blocks, and incoming and internal wiring.
- All incoming/outgoing wiring shall be terminated at the terminal blocks.
- Each terminal on the terminal blocks and on circuit components and wires connected to it shall be clearly identified.
- All terminations shall be of the lug/screw type. Soldered connections are not acceptable.
- When the enclosure cover is opened all circuit component, wiring and terminals shall be exposed and accessible without removal of any panels, covers, etc.
- Each circuit component shall be clearly identified.
- A complete wiring diagram (not a schematic diagram) shall be mounted on the inside cover: The diagram shall represent each conductor by a separate line.
- The diagram shall identify each conduit component and numbering and color of each internal conductor and terminal.
- All wiring shall be neatly trained and laced. Proper protection shall be provided where wiring is subjected to movement at hinges to doors.

715.5.3.3 Operational Control. Regulator control shall be connected to match existing control.

715.5.3.4 Conduit. Conduit shall be used between equipment or between different items of equipment when the equipment is designed for conduit connection as shown on the contract drawings.

Unless otherwise shown all exposed conduits shall be run parallel to or at right angles with the lines of structure.

Rigid galvanized steel conduit shall be used throughout the installation unless otherwise specified.

Use conduit bushings at each conduit termination. Where No. 4 AWG or larger ungrounded wire is installed, use insulated bushings.

Use double lock nuts at each conduit termination.

715.5.3.5 Wiring and Connections. The Contractor shall make necessary electrical connections in the vault in accordance with the wiring diagrams furnished and as directed by the Engineer. In wiring to the terminal blocks, the Contractor shall leave sufficient extra length on each control lead to make future changes in

connections at the terminal block. This shall be accomplished by running each control lead the longest way around the block to the proper terminal. Leads shall be neatly laced in place.

Unless otherwise noted all underground field power multiple and series circuit conductors shall be FAA approved L-824. Type, insulation voltage and size shall be as specified.

Wrap all primary and secondary power transformer connections with sufficient layers of insulation tape and cover with insulation varnish for full value of cable insulation voltage.

The joint of the L-823 primary connectors shall be wrapped with at least one layer of rubber or synthetic rubber tape and one layer of plastic tape, one-half lapped, extending at least 1 ½ inches on each side of the joint.

The ID of the primary L-823 field attached connectors shall match the cable OD to provide a watertight cable entrance.

Color-code all phasing wiring by the use of colored wire insulation and/or colored tape. Where the tape is used, the wire insulation shall be black. Black, red, and blue shall be used for three phase systems. Neutral conductors size No. 6 AWG or smaller shall be identified either by a continuous white or gray outer finish along its entire length or by the use of white tape at its terminations and inside accessible wireways.

All branch circuit conductors connected to a particular phase shall be identified with the same color. The color-coding shall be extended to the point of utilization.

Neatly lace wiring in distribution panels, switches, junction/pull boxes, control panels and wireways.

Ground all non-current carrying metal parts of electrical equipment by using #8 bare copper wire to be run inside cabinets and in conduits together with other wires. Where this is not feasible, run the exposed grounding wire parallel or at right angles to the building lines and secure it at least every 24 minutes and within 6 inches from bend or junction. The exposed wire may be #8 if it is not subject to physical abuse, otherwise #4 shall be used.

All ground connections to ground rods shall be cad welded. Ground connections to busses, panels, etc., shall be made with pressure type solderless lugs and ground clamps. Soldered or bolt and washer type connections are not acceptable. Clean all metal surfaces before making ground connections.

Use dual lugs where two wires Size No. 6 or larger are to be connected to the same terminal.

Label both ends of all control conductors to identify terminal number and circuit.

Unless otherwise noted all single control conductors shall be No. 12 AWG, THHN or THW.

Both ends of each control conductor shall be terminated at a terminal block. The terminal blocks shall be of proper rating and size and they shall be located in equipment enclosures or special terminal cabinets.

A separate and continuous neutral conductor shall be installed and connected for each circuit in the main distribution power panel from the neutral bar to each power/control circuit.

Splices and junction points shall be permitted only in junction boxes, ducts equipped with removable covers and at easily accessible locations.

715.5.3.6 Marking and Labeling. All equipment control wires, terminal blocks, etc., shall be tagged marked, or labeled as specified below:

Wire Identification. The Contractor shall furnish and install self-sticking wire labels or identifying tags on all control wires at the point where they connect to the control equipment or to the terminal blocks. Wire labels, if used, shall be used of self-sticking preprinted type and of the manufacturer's recommended size for the wire involved. Identification markings designated in the plans shall be followed. Tags, if used, shall be of engraved phenolic not less than 3/4-inch diameter and not less than 1/32-inch thick. Identification markings designated in the plans shall be stamped on tags by means of small tool dies. Each tag shall be securely tied to the proper wire by a nonmetallic cord.

Labels. The Contractor shall stencil identifying labels on the cases of regulators, breakers, and distribution and control relay cases with white oil paint as designated by the Engineer. The letters and numerals shall be not less than one inch in height and shall be of proportionate width. The Contractor shall also mark the correct circuit designations in accordance with the wiring diagram on the terminal marking strips, which are a part of each terminal block. The laminated plates for labeling all equipment shall be glued in place and mechanically attached in at least two places with screws or rivets.

715.5.3.7 Existing Regulator. The existing regulator shall be turned over to the Airport once it has been replaced.

## METHOD OF MEASUREMENT

715.5.4.1 Vault Work. The quantity of vault equipment to be paid for under this item shall consist of all equipment, furnished, installed, connected, and accepted as a complete unit ready for operation. Cable installed underground inside the outside wall of the vault enclosure shall be measured as part of the lump sum for this item. Cable outside the outside wall shall be measured under another section of this Specification.

Conduit and cable installed above ground, inside the vault enclosure, will be measured as part of the lump sum for this item.

Conduit or duct installed underground shall be measured under other sections of the Specifications.

## BASIS OF PAYMENT

715.5.5.1 Vault Work. Payment will be made at the contract lump sum for the completed and accepted vault equipment installed, in place and approved by the Engineer. This price shall be full compensation for



furnishing all materials and for preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

715.5.1

Vault Work

Per Lump Sum

**End of Item 715.5.1**